

SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

STANDARD CHLORINE CHEMICAL CO. INC. SITE KEARNY, NEW JERSEY

Prepared for:

Performing Parties Group
(Beazer East, Inc., Cooper Industries, LLC, Tierra Solutions, Inc., on behalf of Occidental Chemical Corporation and Apogent Transition Corporation)

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September 2014

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KEY ENVIRONMENTAL
INCORPORATED

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SEPTEMBER 2014

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ABBREVIATIONS/ACRONYMNS

ACO	Administrative Consent Order
Agreement	Administrative Settlement Agreement and Order on Consent for the RI/FFS
Apogent	Apogent Transition Corporation
ARARs	Applicable or Relevant and Appropriate Requirements
Beazer	Beazer East, Inc.
BERA	Baseline Ecological Risk Assessment
CEA	Groundwater Classification Exception Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Chemical of Concern
Cooper	Cooper Industries, LLC
COPEC	Chemical of Potential Ecological Concern
COPR	Chromite Ore Processing Residue
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid
ECO-SSL	Ecological Soil Screening Levels
EE/CA	Engineering Evaluation/Cost Analysis
EFH	Essential Fish Habitat
ERAGS	Ecological Risk Assessment Guidance for Superfund, EPA/540-R-97-006
GIS	Geographic Information System
Group	Performing Parties Group
HCTS	Hydraulic Control Treatment System
HMD	Hackensack Meadowlands District
HQ	Hazard Quotient
IRA	Interim Response Action
IRAW	Interim Response Action Workplan
IRMs	Interim Remedial Measures
KEY	Key Environmental, Inc.
LOAEL	Lowest observed adverse effect level
Mg/kg	Milligram per kilogram
NHPA	National Historic Preservation Act
NJDEP	New Jersey Department of Environmental Protection
NJEMS	New Jersey Environmental Management System
NJPDES	New Jersey Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NOAEL	No observed adverse effects level
NPL	National Priorities List
OCC	Occidental Chemical Corporation
OM&M	Operations, Maintenance, and Monitoring
OSWER	Office of Solid Waste and Emergency Response
PAH	Polycyclic Aromatic Hydrocarbon

ABBREVIATIONS/ACRONYMNS

PCBs	Polychlorinated biphenyls
PDM	Processed dredge material
PCDDs/PCDFs	Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
PRG	Peninsula Restoration Group
RA	Removal Action
RI/FFS Work Plan	Remedial Investigation/Focused Feasibility Study Work Plan
SCCC	Standard Chlorine Chemical Co. Inc.
SCSR	Site Characterization Summary Report
SCSRA	Site Characterization Summary Report Addendum
SLERA	Screening-Level Ecological Risk Assessment
Site	Standard Chlorine Chemical Co., Inc. Site
SMDP	Scientific/Management Decision Point
SOW	Appendix A, the Statement of Work
SSP	Steel Sheet Pile
TBC	To Be Considered
Tierra	Tierra Solutions, Inc. on behalf of Occidental Chemical Corporation (OCC)
USEPA	United States Environmental Protection Agency
WMP	Wetlands Maintenance Plan

1.0 INTRODUCTION

This Screening-Level Ecological Risk Assessment (SLERA) for the Standard Chlorine Chemical Co. Inc. (SCCC) Site (Site) in Kearny, New Jersey was prepared by Key Environmental, Inc., (KEY) on behalf of the Performing Parties Group (Group). The Group consists of Beazer East, Inc. (Beazer), Cooper Industries, LLC (Cooper), Tierra Solutions, Inc. (Tierra) on behalf of Occidental Chemical Corporation (OCC), and Apogent Transition Corporation (Apogent). The SLERA has been prepared pursuant to an Administrative Settlement Agreement and Order on Consent for the Remedial Investigation/Focused Feasibility Study (the Agreement) dated May 3, 2013, for the SCCC Site ("Agreement"). Specifically, this assessment has been prepared to address Section VIII: TASK 7 – Baseline Risk Assessment – Subsection A.4.B.1 of Appendix A, the Statement of Work (SOW) as described in Section 5.7.2 of the approved Final Remedial Investigation / Focused Feasibility Study Work Plan Work Plan (RI/FFS Work Plan) (KEY, September, 2013).

This SLERA draws upon the preliminary conceptual site model (CSM) originally presented in the Site Characterization Summary Report (SCSR) (KEY, Revised March 2013) that was prepared to address the requirements listed in Section II (Task 1 – Site Characterization Summary Report) of the draft United States Environmental Protection Agency (USEPA) Remedial Investigation/Focused Feasibility Study SOW dated July 2012. The descriptions of Site features and history presented in the SCSR are updated and summarized in this document to facilitate an understanding of Site conditions as they apply to the evaluation of potential ecological risk. Appendix A consists of a compact disk containing the complete set of figures, tables, and appendices from the SCSR and the SCSR Addendum (SCSRA) (KEY, March 28, 2014).

1.1 OVERVIEW OF THE SLERA

As required by Appendix A, Section VIII, Paragraph B.1 of the Agreement, "The SLERA shall be based on data representative of potential exposures that may remain upon completion of the ongoing Interim Response Action." In order to prepare this SLERA and define potential exposure scenarios, KEY considered both current and reasonably foreseeable future use(s) of the Site, remedial measures completed, and ongoing and established restrictions in land use.

The SLERA addresses the exposure setting and ecological receptor characteristics for the Site. It identifies current and reasonably foreseeable habitats, land characteristics, and exposure pathways by which potential receptors, including animal and plant populations, communities, and sensitive environments may be exposed in the absence of added remedial measures or land use restrictions. Exposure pathways were identified based on consideration of the sources and locations of contaminants, existing remedial measures and ongoing controls, the likely environmental fate of the contaminants, and the location and activities of the potentially exposed populations. The SLERA also identifies specific chemicals of concern for the Site. This SLERA has been prepared

in accordance with current Superfund ecological risk assessment guidance, specifically, *Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments* (ERAGS), USEPA, 1997 (EPA/540-R-97-006), OSWER Directive 9285.7-25, June 1997. ERAGS provides an eight step ecological risk assessment process, as follows:

1. Screening-Level Problem Formulation and Ecological Effects Evaluation
2. Preliminary Exposure Estimate and Risk Calculation (which corresponds to the Scientific/Management Decision Point (SMDP) about whether a full ecological risk assessment is necessary)
3. Baseline Risk Assessment Problem Formulation
4. Study Design and Data Quality Objectives
5. Field Verification of Sampling Design
6. Site Investigation and Analysis of Exposure and Effects
7. Risk Characterization
8. Risk Management

The goal of the SLERA is to complete Steps 1 and 2 of this process and determine whether a baseline ecological risk assessment (BERA) is necessary.

The first part of Step 1, Screening-Level Problem Formulation, consists of developing an ecological CSM. The elements of the ecological CSM are identified below along with a reference to where each topic is addressed in this document.

- (1) ***Environmental setting and contaminants known or suspected to exist at the Site*** - This is addressed in Section 2.0 which describes the Site background and setting including Site history, remedial actions, regulatory history, land and water use, current Site conditions including the ongoing remedial operations, maintenance, and monitoring program, and redevelopment plans. Also included in this section is a summary of observations made during a Site walk conducted on March 31, 2014 for the purpose of documenting current Site conditions. Section 3.1 summarizes the potential sources of contamination.
- (2) ***Contaminant fate and transport mechanisms that might exist at the Site*** - The CSM identifies both current and potential future fate and transport mechanisms in Section 3.2 in consideration of the remedial facilities currently in place at the Site.
- (3) ***Identification of a complete exposure pathway(s)*** - Sections 3.3 and 3.4 of the CSM describe potential migration and exposure pathways and whether there exists reasonable potential for a Chemical of Potential Ecological Concern (COPEC) to travel under current or future conditions from the source to a receptor or sensitive environment that can be affected by the chemical.

- (4) ***The mechanisms of ecotoxicity associated with contaminants and likely categories of receptors that could be affected*** – This is addressed in Section 4.0. Section 4.0 explains that ecotoxicity screening levels for COPECs have not been identified for this Site-specific SLERA because there are no complete exposure pathways to potential ecological receptors.
- (5) ***Selection of endpoints to screen for ecological risk*** – For the screening-level assessment, endpoints are any adverse effects on ecological receptors including plant and animal populations, and communities, habitats, and sensitive environments. Adverse effects on populations can be inferred from changes in community structure or function. Adverse effects on habitats can be inferred from changes in composition and characteristics that reduce the habitat's ability to support plant and animal populations and communities. Identification of potential adverse effects on possible plant or animal receptors could be accomplished by identifying conservative estimates of concentrations of detected Site-related chemical constituents for comparison to ecotoxicity screening levels, however, because there are no complete exposure pathways to potential ecological receptors, this step is not considered necessary for this Site-specific SLERA.
- (6) ***Establishing conservative thresholds for adverse ecological effects*** – This is the final requirement under Step 1 and could be accomplished by the identification of conservative screening-level ecotoxicity values. However, as stated previously, this step is not required for this Site-specific SLERA because there are no complete ecological exposure pathways.

Step 2 consists of the screening-level exposure estimate and risk calculation, as follows:

- (1) ***Screening-Level Exposure Estimates*** – If complete exposure pathways were present, this would be completed by comparing on-site contaminant concentrations against appropriate ecotoxicity screening values. This step is not required for this Site-specific SLERA because there are no complete ecological exposure pathways.
- (2) ***Screening-Level Risk Calculation*** – For this step, a calculation, such as the hazard quotient (HQ) approach, would be used to compare exposure point estimates of ecotoxicity screening values and exposure values. The hazard quotient is expressed as the ratio of a potential exposure level to the ecotoxicity value. Screening-level risk calculations are not required for this Site-specific SLERA because there are no complete ecological exposure pathways.
- (3) ***SMDP*** – In this step, a final recommendation is made based on the results of the screening-level evaluation. There are three possible decisions at this point in the process: (i.) that there is adequate information to conclude that ecological risks are negligible and there is no need to remediate on the basis of ecological risk, (ii.) that the information is not adequate to make a decision at this point and the ecological risk assessment process proceeds to Step 3 (of the ERAGs 8-step process), or, (iii.) the information indicates a potential for adverse ecological effects and a more thorough assessment is warranted. This determination is presented in Section 7.0 of this report.

This SLERA consists of eight sections, as follows:

- Section 1 – Introduction
- Section 2 – Site Background and Setting
- Section 3 – Conceptual Site Model
- Section 4 – Ecotoxicity Screening Levels
- Section 5 – Selection of COPECs
- Section 6 – Screening-Level Risk Calculation
- Section 7 – Scientific/Management Decision Point
- Section 8 – References

2.0 SITE BACKGROUND AND SETTING

The SCCC Site is located at 1025-1035 Belleville Turnpike in Kearny, New Jersey. Figure 1 is a Site location map which shows the existing Site boundaries on a base map which consists of combined portions of two United States Geologic Survey 7.5 minute quadrangles (Jersey City and Weehawken, New Jersey). The Site is situated adjacent to the Hackensack River in Hudson County, New Jersey, and is located approximately 4,000 feet east of the intersection of I-95 and I-280. The Site is bounded to northeast by the Hackensack River, to the south by the adjacent Seaboard Site, to the north by the adjacent Diamond Site, and to the west by the Belleville Turnpike. Substantial remedial measures have been implemented at the Site as discussed in detail in Section 2.2. A recent aerial photograph depicting current Site conditions is provided as Figure 2.

The Site, as the description is used in this SLERA, refers to the definition of the "Site" in the Agreement and the RI/FFS SOW, with the following considerations regarding the riparian parcel (known as Lot 52R or 52.01: 1) stormwater sampling and analysis has shown no significant loading to the river via runoff or groundwater intrusion in the storm sewer; 2) the groundwater is fully contained within the barrier wall system and does not discharge to the river; 3) near-shore river sediments were removed and restoration was completed; and 4) given the existence of multiple other point and area sources in the watershed, the USEPA and NJDEP are currently evaluating the Hackensack River as a separate matter. Further, while past remedial response actions on the SCCC Site have been integrated with areas of contiguous impact on the adjacent Diamond and Seaboard sites, those sites are adequately regulated under the State of New Jersey, Department of Environmental Protection (NJDEP) requirements and are excluded from consideration in the SLERA. The one exception is consideration of potential exposure pathways associated with SCCC Site impacts that have not been addressed through existing remedial actions (e.g., consideration of DNAPL in soil and groundwater impacts located beyond the influence of barrier wall/containment system).

2.1 SITE DESCRIPTION

The Site occupies an area of approximately 25 acres, consisting of five upland parcels referred to on the Tax Map of the Town of Kearny as Block 287, Lots 48, 49, 50, 51, and 52, and one riparian parcel, Lot 52R. These lots currently are owned by the Town of Kearny. The Site includes another parcel, Lot 32.01, which is a former railroad right-of-way currently owned by the Hudson County Improvement Authority. Figure 3 identifies the lot numbers for the various Site parcels. The Site is located along the tidal portion of the Hackensack River.

Currently, the Site contains a few abandoned historic building structures, multiple foundations from buildings that were demolished during past response actions, and the HCTS building. A

Redevelopment Plan (New Jersey Meadowlands Commission, February 2013) has designated the Site and surrounding properties (a total of 74 properties on 367 acres) for redevelopment, with the goal of capitalizing on existing road, rail and marine transportation prospects in the area. In this plan, the Site was designated for Intermodal B land uses. Intermodal facilities are typically those where cargo is transferred from one mode of transportation to another. Recommended uses for the area consist of the following categories: 1) Industrial/storage/trucking uses; 2) Transport support services; 3) Neighborhood services (e.g., truck stops or retail to support working people); 4) Public or quasi/public uses (e.g., utilities); or 5) Water-dependent uses (boat sales and repair or port facilities). The goal is to return these properties to productive industrial or commercial uses. In addition, it should be noted that a groundwater classification exception area (CEA) /well restriction area is in place for the Site and adjacent Sites.

The Site is located in a former meadow that was filled in at the beginning of the 20th century. Significant areas of meadowlands remain north and west of the Site. The filling occurred to support industrial development of the Site and surrounding properties.

Hudson County lies within the Piedmont Province of New Jersey. It is mainly underlain by slightly folded and faulted sedimentary rocks of Triassic and Jurassic age (240 to 140 million years old) and igneous rocks of Jurassic age. Geology at the Site consists of upper fill materials ranging in thickness from 2 to 10 feet, an underlying peat layer locally referred to as the Meadow Mat, a deeper sand unit approximately 10 feet thick, and below these units, a massive low-permeability varved clay unit acting as an aquitard. The varved clay is continuous beneath the areal extent of the Site, is at least 40 feet thick, and is underlain by glacial till and bedrock.

2.2 SITE HISTORY

Various forms of chemical manufacturing, blending/mixing, and/or processing have occurred on the different parcels that make up the Site since 1916. Activities included naphthalene refining and product formulation, dye-carrier production, dichlorobenzene refining and product formulation, and lead-acid battery manufacture. Additionally, it has been reported that former Site owners and/or operators placed fill materials on the Site containing chromite ore processing residue (COPR) allegedly from the adjacent Diamond Site, lead mud oxide and other fill materials on the Site. These activities were performed by multiple corporations on different parcels of the Site. Figure 3 is a Site base map that shows the historical Site arrangement just prior to initiation of an extensive Interim Response Action (IRA) completed from 2010 through 2011. The property lines and parcels, as well as the building numbers subsequently referenced, are identified on this figure. Appendix A (of Appendix A) contains a series of aerial photographs (from 1946 through 2012) which depict the Site conditions at various times prior to (1946 through 2006) and after completion of the IRA (2012).

In October 1989, the NJDEP and SCCC entered into an Administrative Consent Order (ACO). This ACO required SCCC to plan and implement the following:

- Interim Remedial Measures (IRMs) to prevent potential contact with materials in the lagoon area and to secure damaged tanks and containers
- A Remedial Investigation and Feasibility Study
- Selected Remedial Alternative(s)

Subsequent to the ACO, a remedial investigation was conducted in a phased approach between 1990 and 1999. In addition, various IRMs were completed, as described in Section 2.2.1.

In December 2001, NJDEP referred the Site to USEPA for proposed inclusion on the National Priorities List (NPL). On April 30, 2003, the USEPA proposed to add the Site to the NPL and the Site was subsequently listed on September 19, 2007. Work under the SCCC ACO continued through the period of Site Listing, and included the development of an NJDEP-approved Interim Response Action Workplan (IRAW). Upon Site listing, an Engineering Evaluation/Cost Analysis (EE/CA) corresponding to the response proposed in the NJDEP-approved IRAW was submitted to (and approved by) the USEPA. The USEPA designated NJDEP as the lead agency for implementation of the IRA as described in the IRAW and EE/CA, but the USEPA remains the lead agency for all other response activities undertaken at the Site.

Over the last twenty-five to thirty years numerous investigative and interim response activities have been undertaken at the Site. Most of these activities were completed on behalf of or by SCCC, the Peninsula Restoration Group (PRG) (a group that consisted of Beazer, Tierra on behalf of OCC, and SCCC), and most recently, by the Group. While the PRG and NJDEP were in the process of negotiating a scope of work for an IRA, activities such as multiple work plan submittals, an asbestos and lead paint survey, wetlands delineation, an aerial topographic survey, waste classification requests, offsite disposal of demolition debris, numerical groundwater model development, vault content sampling and analysis, and a request to use the USEPA's Area of Contamination Policy were completed proactively by the PRG. Environmental investigations, dating back to the early 1980s, have also been completed for the Site, as follows:

1983-1984	Hydrogeologic Investigation	Roy F. Weston, Inc.
1985	Phase II Dioxin Investigation	E.C. Jordan, Inc.
1987	Stage 1 Dioxin Investigation	Roy F. Weston, Inc.
1988	Stage 2 and 3 Dioxin Investigations	Roy F. Weston, Inc.
1991	Chromium Delineation	French & Parrello Associates
1990-1993	Remedial Investigation/Supplemental RI	Roy F. Weston, Inc.
1996-1997	Focused Remedial Investigation	ERM, Inc.
1997-1999	Supplemental Remedial Investigation	Key Environmental, Inc.
2000	Soil/Sediment Sampling and Analysis	Enviro-Sciences, Inc.

2000	Characterization of Containerized Materials	Enviro-Sciences, Inc.
2002	Surface Water and Sediment Sampling	USEPA TAT
2008-2009	IRA Pre-Design Investigation	Key Environmental, Inc.
2008-2009	Phase II Supplemental RI	Key Environmental, Inc.

Figure 2-2 of Appendix A is a Site base map which depicts the locations of all the samples obtained during the investigations listed in the preceding list (excluding the containerized materials samples obtained in 2000). Figure 2-3 of Appendix A is a Site base map which depicts the locations of the pre-design and supplemental remedial investigation samples obtained in 2009 by KEY.

From 2002 through 2008, various project planning activities were undertaken with respect to pre-design, remedial investigation, and interim response activities. Multiple response actions have also been undertaken at the Site, consisting of IRMs, an IRA, a Removal Action, and other miscellaneous responses. Brief descriptions of these response actions are as follows:

2.2.1 Interim Remedial Measures (IRMs)

Various IRMs have been implemented at the Site dating back to the early 1990s. These IRMs have been completed to preclude potential risks associated with exposure to chromium-impacted soils, to preclude access to impacted soils and the lagoon in the former process area, to control fugitive dust emissions, to provide protection of the lagoon area from flooding, and to control potential constituent migration via existing storm sewers. Table 2-1 of Appendix A presents a timeline for the principal historical investigations, regulatory actions, and remedial measures that have been conducted at the SCCC Site through March 2012. A summary of the IRM activities is as follows:

- Installation of security fencing surrounding a former production area and lagoons to prevent unauthorized access (early 1990s) – Lots 49 and 52;
- Addition of soil to the lagoon berm to increase its height and freeboard to prevent potential overflows (early 1990s) – Lot 52;
- Placement of stabilizing geotextile and rip rap along the Hackensack River shoreline in the vicinity of the lagoon (early 1990s) – Lot 52;
- Removal of the contents of five above-ground storage tanks and repackaging of asbestos-containing material removed from the former distillation building (early 1990s) – Lot 49;
- Installation of an asphalt pavement overlay on traffic areas where existing deteriorated asphalt pavement was present (1991) – Lots 48, 49, and 51;
- Installation of geotextile fabric/aggregate/asphalt cover in all remaining traffic areas where total chromium concentrations exceed the NJDEP standard in effect at the time, 75 milligrams per kilogram (mg/kg) (1991) – Lots 49 and 52;

- Geotextile/geomembrane liner/aggregate cover construction in non-traffic areas west of a railroad right-of-way (1991) – Lot 51;
- Installation of a dust fence barrier along the railroad right-of-way and north fence line of the former northeast process area (1991) – Lots 49 and 52; and,
- Improvements to existing stormwater sewer located between the Site and the adjacent Diamond Site to the north (2008) – Lots 48 and 49.

Site conditions upon completion of the IRMs (2008) are presented in Figure 3.

2.2.2 Interim Response Action (IRA)

An IRA was completed in 2010 and 2011 and included significant construction components which have resulted in containment, control, and treatment of impacted media at the Site. The IRA was designed with the final Site remedy in mind, and so was integrated with areas of contiguous impact on the adjacent Diamond and Seaboard sites. The IRA was completed to achieve the following outcomes relevant to eliminating risks to potential ecological receptors:

- Eliminate the potential for subsurface discharge of constituents to the Hackensack River from the Site
- Eliminate the potential for overland runoff of constituents to the Hackensack River from the Site
- Remove dense non-aqueous phase liquid (DNAPL) to the extent practicable as a source control measure
- Eliminate the potential for direct contact with constituents of interest at the Site

The IRA consisted of the following major components:

- Site preparation activities
- Installation of a fully contained barrier wall system
- HCTS
- DNAPL recovery system installation
- Lagoon dewatering, backfilling, and surface cover installation
- Near-shore sediment management (excavation and disposal)
- South Ditch sediment management and stormwater management system construction
- Consolidation Area construction
- Wetland and shoreline mitigation
- Septic tank closure
- Transformer pad removal and remediation
- Site restoration
- Air monitoring activities

Complete details of the IRA are presented in the IRA Report (KEY, December 2011). In summary, implementation of the IRA was such that engineering controls effectively eliminate potential exposure pathways to ecological receptors both at the surface and in the subsurface, including:

- A slurry wall that is keyed into the varved clay unit that fully encloses the Site and the adjacent Diamond Site
- A steel sheet pile wall installed along the river bank, extending into the varved clay, that further separates the Site from the Hackensack River
- A partial cap that prevents direct contact and overland runoff
- A new and upgraded infiltration-resistant stormwater management system
- Multiple potential sources and impacted media have been removed or managed (i.e., polychlorinated biphenyls (PCB) impacted soil from the transformer area, wastewater treatment lagoons, septic tanks, ditch sediments, and near-shore river sediments)
- Reductions in toxicity, mobility, and volume of constituents in Site groundwater have been achieved and are ongoing via the operation of groundwater and DNAPL recovery wells
- Offsite exposure to constituents in Site groundwater has been eliminated through construction and operation of an effective, permitted groundwater treatment plant, the HCTS, with unit operations consisting of chromium reduction, metals precipitation, carbon adsorption, oil separation, and solids management (operating in compliance with effluent limits established under New Jersey Pollutant Discharge Elimination System ("NJPDES") Permit No. NJG0175102).

2.2.3 Removal Action

A Removal Action (RA) was completed at the Site in 2010 which consisted of sealing existing structures on Lot 49 that were perceived to be potential sources of wind-borne particulates. The RA was completed pursuant to an Administrative Settlement Agreement and Order on Consent for Removal Action entered into between the USEPA, SCCC, and Beazer dated June 7, 2010. An Administrative Order Notice of Completion was issued by the USEPA on January 20, 2011. This eliminated the potential exposure pathway of wind-borne contamination from the existing structures. The buildings that were sealed have since been demolished and removed from the Site.

2.2.4 Additional Response Actions

Several additional response actions have been completed at the Site and consisted of demolition of the majority of the Site structures and disposal of historical containerized materials associated with past abatement operations and Site investigations. Demolition of all structures except historical structures associated with former activities of Thomas A. Edison, Inc. at the Site (Buildings 1, 2, 3 and 4) has been completed. The demolition of the structures on Lots 48 and 49 was completed in three separate phases designated as Track 1, Track 2, and Track 3. Track 1

demolition was completed prior to IRA implementation to facilitate IRA construction activities. Track 2 and Track 3 building demolition was conducted as the IRA neared completion. NJDEP-approved work plans, which were also provided to USEPA for review, were prepared for each phase of the demolition work. Upon completion, each phase of demolition was summarized in a Demolition Remedial Action Report that was submitted to the NJDEP.

Various asbestos-abatement materials and investigation-derived waste had been previously containerized and stored at the Site in six SeaLand containers. These materials were appropriately characterized and managed on-site. A total of seven material shipments were made to an off-site disposal facility (Chemtron Corporation in Avon, Ohio). Current conditions on the Site, the adjacent Diamond Site and the northern portion of the Seaboard Site following IRA construction are shown in Figure 4.

2.3 LAND AND WATER USE

Land use in the general vicinity of the Site is limited to industrial and commercial use, and/or easements for transportation corridors. The nearest residential area is in Jersey City, located more than one mile southeast of the Site and on opposite side of the Hackensack River. Residential land uses are not permitted as per the recently adopted redevelopment plan.

North of the Site is a former industrial property once operated by Diamond Shamrock and known as the Diamond Site, which is currently not in use, but contains two vacant structures. South of the Site is another former industrial property known as the Seaboard Site, which is currently used for the placement and spreading of process dredge material (PDM). Northeast of the Site is the Hackensack River. Southwest of the Site is Belleville Turnpike and various outlying industrial properties.

Currently, the Site contains a few abandoned historic building structures, multiple foundations from buildings that were demolished during past response actions, and the HCTS building. Section 2.1 describes a redevelopment plan for the Site and surrounding area as designated by the New Jersey Meadowlands Commission (February 2013).

Historically, surface water runoff in portions of the Site was channeled into surface ditches and wetland areas that originated on the Site and flowed to the south into what was referred to as the South Ditch on Lots 50, 51 and 52. Surface water runoff eventually discharged into the Hackensack River. In addition, an underground storm sewer with catchment basins located along the northern Site boundary between Lots 48 and 49 and the Diamond Site was replaced in 2008, prior to the IRA. As a major component of the IRA, a new infiltration-resistant stormwater collection system was installed to manage the runoff previously discharged via the South Ditch. This system consists of underground high-density polyethylene conveyance pipes and a series of drop

inlets. Since the vast majority of the former process areas, fill placement areas, and wastewater management units (lagoons) are solidified and capped or lie within the limits of the capped Consolidation Area, erosion potential has been minimized. Groundwater that collects within the slurry wall is pumped, treated and discharged under an NJPDES permit.

The Hackensack River adjacent to the Site is classified as SE2. This classification applies to saline estuarine water with the following designated uses:

- Maintenance, migration, and propagation of the natural and established biota
- Migration of diadromous fish
- Maintenance of wildlife
- Secondary contact recreation
- Any other reasonable uses.

The Hackensack River in the Site vicinity is tidally influenced. A tidal range of approximately 5 to 6 feet occurs in this lower portion of the river. The Passaic River is approximately one mile west of the Site and discharges to Newark Bay which is located downstream of the Site, but no hydraulic connection exists between groundwater in the fill or sand unit aquifers at the Site and the Passaic River, or between the Site and the Hackensack River since the installation of the barrier wall in 2011. Furthermore, prior to the installation of the barrier wall, groundwater flow was toward the South. There are no known groundwater wells used as a source of private or public drinking water within one mile of the Site (KEY, May 2011). No drinking water intakes are located in the Hackensack River in this tidal reach due to the water being brackish. The Town of Kearny water is supplied by the Wanauque Reservoir in Bergen County, New Jersey. The entire Site lies within the 100-year floodplain of the Hackensack River (EDR, May 5, 2008).

2.4 CURRENT SITE OPERATION, MAINTENANCE AND MONITORING (OM&M)

The current Site Operations, Maintenance, and Monitoring (OM&M) activities consist of the following tasks:

- Visual inspection of the freshwater wetland mitigation areas
- Visual inspection of the surface covers
- Visual inspection of the stormwater system
- Visual inspection of the barrier wall system and cathodic protection system
- Visual inspection of the consolidation area surface cover
- Visual inspection of Site security (fences) DNAPL recovery
- Operation of the hydraulic control groundwater collection and treatment systems

- Waste management (i.e., spent carbon regeneration; DNAPL and filter cake characterization, and off-site disposal)
- Measurement of potentiometric surface elevations and apparent DNAPL thicknesses
- Maintenance of the vegetative surface covers
- Periodic maintenance of IRA and IRM components such as the cathodic protection system
- Recordkeeping and regulatory reporting of the OM&M activities in accordance with Appendix D of the EPA-approved RI/FFS Work Plan. The OM&M data are reported to EPA on a quarterly frequency as an attachment to the applicable monthly progress report.

Operation and maintenance of the HCTS, as well as water discharge and air monitoring is a primary component of OM&M activities for the Site. Certified personnel operate the HCTS in accordance with the requirements of a NJPDES Discharge to Surface Water permit (Permit Number NJG0175102). The permit authorizes the offsite discharge of treated groundwater and lists the associated requirements such as effluent limits, influent and effluent monitoring, monthly and annual reporting, and recordkeeping.

The Site's shallow groundwater table within the barrier wall system is regulated by the hydraulic control and recovery wells connected to the HCTS. Monthly gauging of piezometers located inboard and outboard of the slurry wall barrier wall system is conducted to evaluate the effectiveness of the hydraulic control system. In addition, routine inspection and maintenance of various Site improvements, IRM and IRA features is completed as listed above. Operation and maintenance associated with these features is accomplished via the use of checklists and corrective action is conducted as required.

2.5 SITE CONDITIONS OBSERVED ON MARCH 31, 2014

On March 31, 2014, a Site walk was conducted by a KEY senior scientist accompanied by one of the full-time onsite operations and maintenance technicians. Photographs taken on that day are included as Appendix B. Figure 5 is a photograph location map to assist in identifying the photographed features.

The Site is a former industrial property and the Site walk and photographs portray that the Site is mostly covered with asphalt and the foundations of former buildings. The original surface materials have been removed or covered and are not available for exposure to ecological receptors. Groundwater is recovered, treated, and discharged to the Hackensack River as permitted discharge only. The wetlands that border this property and the adjacent Seaboard property are part of a freshwater emergent wetland mitigation.

Views from Photograph Location A near Outfall 003 at northeastern corner of Site (see Figure 5 for Location A):

- Photographs 1 and 2 show the steel sheet pile (SSP) wall that separates the northeastern border of the Site from the Hackensack River. The barrier wall system is comprised of a SSP wall and a cement/bentonite slurry wall installed inboard of the SSP. Construction occurred in 2011 and was documented in the IRA Report (KEY, December 2011). The sheet pile wall system was designed as a cantilevered retaining wall to provide for lateral earth support along the river shoreline. The SSP wall extends along the entire shoreline of the Diamond and SCCC Sites for an approximate horizontal length of 1,200 ft. The depth of embedment within the low-permeability varved clay unit (approximately 30 feet below ground surface) was selected based upon geotechnical calculations, to provide for structural stability.
- Photos 3 and 4 show the gravel-covered former process area and HCTS building. The former process area is covered by a 6-inch layer of general stone cover of NJDOT #4 stone, underlain by 10 oz./SY of non-woven geotextile.
- Photos 5 and 6 show the northern property boundary between the Site and the adjacent property to the north (the Diamond Site).
- Photo 7 is a view of the adjacent Diamond Site.

Views from Photograph Location B near the northeastern corner of the Consolidation Area cap:

- Photos 8, 9, and 10 show the Consolidation Area and the drainage channels along the northern and eastern edges of the area. In the center of the Consolidation Area are DNAPL recovery wells. The Consolidation Area was used for on-site consolidation of sediments, soils, and spoils generated during various remediation activities and was planned and approved in accordance with the USEPA's Area of Contamination Policy.

Views from Photograph Location C near Outfall 001 at southeastern corner of Site:

- Photos 11 and 12 show the southern property boundary between the Site and the adjacent property to the south (Seaboard Site). Visible in these photos are the reconstructed wetlands located at this property boundary, also known as the location of the former South Ditch. The standing water that appears in the photos is not the wetlands, and is not located on the Standard Chlorine Site. The standing water is actually located in a topographic low on the adjacent Seaboard Site. This standing water resulted from stormwater runoff from a storm that produced over 2.5-inches of rain in the 48-hours preceding the March 31, 2014 site visit when the photo was taken. Subsequently this surface water infiltrated. Thus, the

relationship between surface water and groundwater in this area is one where surface water recharges the groundwater. Photo 12b shows the same view of the topographic low area as that shown in Photo 12 but taken on a different day, July 30, 2014. This photo clearly shows that no surface water is present in the area to the south of the wetlands.

These wetlands were constructed following excavation of South Ditch soft soils, as follows: A woven geotextile fabric was placed along the entire excavation bottom and sidewalls. Bedding material consisting of at least a 6-inch-thick layer of ¾-inch diameter aggregate was then placed prior to installation of the HDPE stormwater culvert. The excavation was backfilled to the mid-line of the culvert using ¾-inch diameter aggregate. An additional layer of woven geotextile fabric was then placed over the culvert and onto the ¾-inch diameter aggregate. Additional aggregate backfill was then placed up to the crown of the culvert. A capillary break layer consisting of a 6-inch thick layer of 1.5-inch diameter aggregate underlain and overlain with a non-woven fabric was installed in the drainage ditch remediation area. The fabric is installed to keep fines from filling in the large pore spaces within the aggregate. A permeable fabric was utilized with the exception of the easternmost segment of the drainage ditch (from the former railroad right-of-way to the steel sheet pile wall) where an impermeable geomembrane was used. The capillary break layer was installed to the limits of the existing adjacent IRMs and to the Seaboard Site capillary break. Structural fill and topsoil were installed above the capillary break, to meet final surface design grades as applicable. The wetlands were constructed above the impermeable liner to ensure that no hydraulic connection between the wetlands and shallow groundwater could exist and, therefore, groundwater does not discharge to the wetlands. Figure 6 shows the extent of the geomembrane in this area and Figure 7 is a cross-section showing the geomembrane, mitigated wetlands, and water table beneath the SCCC Site. As shown, the ground surface in the wetlands is at an elevation approximately three feet above the water table.

This area is part of the 1.2 acres of freshwater emergent wetland constructed to compensate for habitat lost during mitigation of the former South Ditch area. Post-installation monitoring of the wetland mitigation areas is performed in accordance with the Wetlands Maintenance Plan (WMP).

- Photos 13 and 14 are views of the adjacent Seaboard Site including the reconstructed wetlands described in the previous bullet and the Hackensack River to the northeast.

View from Photograph Location D near southern edge of the Consolidation Area:

- Photo 15 is a view of Hydraulic Control Well HCWU-21 within the consolidation area cap with DNAPL recovery wells in the background. The hydraulic control wells are part of

the hydraulic control system that was installed to attenuate the anticipated rise of the water table within the barrier wall enclosure. Water extracted from the recovery wells is treated through the HCTS, which is comprised of the following general treatment components:

- Oil/water separation
- pH control and hexavalent chromium reduction
- pH control and metals precipitation/flocculation
- Solids dewatering and management
- Dissolved organics removal via carbon adsorption

Views from Photograph Location E near the southwestern corner of the Consolidation Area:

- Photos 17 and 18 show conditions along the western edge of the consolidation area. This narrow strip is part of the freshwater emergent wetland constructed to mitigate habitat loss from the South Ditch remediation.

Views from Photograph Location F near Building 2 in the approximate center of the Site:

- Photos 19, 20, and 21 show the wetland area to the west of the treatment building. These wetlands are also part of the freshwater emergent wetland mitigation.
- Photos 22, 23, 24, and 25 show views of pavement and former structures to the west and north.

Views from Photograph Locations G, H, I, J, and K at the southwest and west portions of the Site:

- Photos 26 through 38 show views on the western side of the property of the boundary between the Site and the Seaboard Site to the south, the constructed wetlands to the south and west, the old buildings, and the pavement that covers a majority of the Site. Photo 37 shows a train passing within view of the Site to the northeast and illustrates the high degree of development in the area surrounding the Site.

Views from Photograph Location L at the western border of the Site:

- Photos 39 through 42 show the western boundary of the Site including the slurry wall, and views of the Site from west to east. The slurry wall system was constructed to completely encircle both the Diamond and SCCC Sites, and a portion of the Seaboard Site, as shown on Figure 4. The depth of embedment was prescribed to provide a minimum key-in depth of three feet into the underlying varved clay unit (typically 20 to 25 feet below ground surface) and to contain groundwater in both the surficial fill unit and the underlying sand glacial unit.

Views from Photograph Location M at the northwestern corner of the Site:

- Photos 43 through 45 show views of the Site from atop the slurry wall in the northwestern corner of the Site.

3.0 CONCEPTUAL SITE MODEL

A preliminary CSM originally developed for the SCSR was refined based on additional Site sampling performed in late 2013. This CSM is based on consideration of Site modifications resulting from implementation of the IRMs and IRA, including but not necessarily limited to, the existence of the fully-enclosing perimeter subsurface barrier wall system, the operation of the groundwater and DNAPL collection system, the HCTS, DNAPL gauging and passive recovery, the presence of historical and recent cover materials, the existence of the new infiltration-resistant stormwater control system, and on-site consolidation and capping of impacted materials (including South Ditch soft soils and near-shore river sediments), and off-site source removal and disposal.

Under current Site conditions, the potential for ecological exposures to impacted media is considered to be negligible, as is the potential for off-site migration of any Site constituents of concern located within the slurry wall. Figure 8 is a graphical representation of the CSM.

3.1 SOURCES OF CONTAMINATION

Since 1916, various forms of chemical manufacturing, processing or blending have occurred on the various parcels that make up the Site. These activities included naphthalene processing, dichlorobenzene and trichlorobenzene processing, battery manufacturing, and dye carrier blending operations. In addition, a variety of fill material has been emplaced at the Site. As a result, multiple classes of chemicals (volatile and semi-volatile organics (VOCs/SVOCs), PCBs, polychlorinated dibenzodioxins/polychlorinated dibenzofurans (PCDDs/PCDFs); and metals have been detected in various environmental media over time.

Former source areas consisted of the following areas that have been remediated: chemical storage tanks and chemical processing operations, septic systems and tanks, an underground vault, wastewater treatment lagoons (dewatered, backfilled, solidified and capped) and wastewater discharges, a former PCB-transformer area (excavated), impacted surface materials and fill on the eastern and western portions of the property (removed and covered), soft soil formerly contained in the South Ditch, and DNAPL in the groundwater (contained within the barrier wall system).

The barrier wall system surrounds all of the former source areas, and ensures that no off-site migration from former source areas occurs. Data collected in 2013 as part of the RI/FFS conducted pursuant to the Agreement indicated the presence of residual DNAPL in subsurface soil located within the sand unit at the top of the varved clay and corresponding dissolved phase impact to groundwater located outside the barrier wall near the southwest corner of the Seaboard site. Assessment of this condition is being completed as part of the RI/FFS. However, based upon the depth of the impact and the distance to the nearest surface water body, the presence of constituents

in the off-site deep sand unit groundwater is not expected to result in adverse exposure to environmental receptors and is therefore excluded from further consideration in the SLERA.

3.2 FATE AND TRANSPORT

Chemicals may have been released to the environment via several mechanisms such as leaks and spills during former industrial manufacturing operations, storage and shipment; wastewater discharges; overflows from the former wastewater lagoons; erosion of surficial materials and subsequent overland flow/discharge to drainage ditches; and the placement of fill material from off-site sources and on-site sources.

This section presents a brief discussion of general fate and transport information for the major chemicals or classes of chemicals observed in various environmental media at the Site as well as general information indicative of chemical transport at the Site. In general, Site conditions appear to be somewhat favorable with respect to the attenuation of constituents. Major classes of chemicals detected include chlorinated aromatic compounds such as chlorobenzene, dichlorobenzene isomers and 1,2,4-trichlorobenzene; PCBs; PCDDs/PCDFs; and polycyclic aromatic hydrocarbons (PAHs) and metals (including hexavalent chromium). In addition, various other metals have been detected in Site media.

The following general statements can be made relative to fate and transport of the major classes of chemicals found at the Site:

- The chlorinated benzenes and naphthalene (a PAH) are the more water-soluble constituents observed in Site media. These compounds are considered to be more amenable to leaching from the soils and reaching the groundwater, where they could migrate in the dissolved phase (groundwater), than the PCBs, PCDDs/PCDFs, and other PAHs. Further migration is governed by chemical- and aquifer-specific characteristics (e.g., aqueous solubility, organic carbon partition coefficients, permeability or Henry's Law Constant).
- PCDDs/PCDFs, PCBs, and most PAHs have high organic carbon partition coefficients, and are more likely to adsorb to soil materials and hence are considered less mobile. Sorption to the soil matrix inhibits migration.
- Chlorinated aromatics, PCBs, and PCDDs/PCDFs are generally considered to be resistant to natural biodegradation, while many lower molecular weight PAHs are more amenable to these processes.
- Transport of many metals, which are generally not highly soluble, occurs via particulate erosional mechanisms (e.g., runoff, wind erosion). Hexavalent chromium is a more soluble species, however it is readily reduced to the trivalent species in the presence of organic carbon (i.e., the Meadow Mat).

Site conditions are favorable with respect to minimizing the transport of Site chemicals, especially with the presence of the underlying Meadow Mat and varved clay confining unit. The removal of source areas, construction of the Consolidation Area and placement, and solidification as necessary, of source material within the Consolidation Area, upgrading of the storm sewers, and installation of the barrier wall also establish containment within contiguous areas of impact on the adjacent Diamond and Seaboard Sites.

3.3 MIGRATION PATHWAYS

A CSM, developed initially for the SCSR, as well as the RI/FFS Work Plan, indicated that the majority of potential migration pathways (and hence exposure scenarios) were incomplete under current Site conditions. That CSM has been updated and included as Figure 8. Under existing Site conditions, all potential migration pathways have been substantially addressed.

Installation of the slurry wall and steel sheet pile wall has effectively contained subsurface Site impacts and eliminated the potential for discharge of constituents to adjacent properties (beyond the barrier wall) and the Hackensack River via subsurface routes.

The groundwater extraction and treatment system is fully operational and is effectively reducing the mobility and the volume of constituents in Site groundwater. The removal of soft soils from the South Ditch and near-shore sediments from the Hackensack River, in concert with construction of a water-tight stormwater management system, has also served to address potential overland transport pathways.

The construction of the SCCC Consolidation Area and the consolidation therein of various impacted materials under a multi-layer cap, coupled with the construction of the IRMs has served to address the potential for atmospheric transport of Site-related constituents. The placement of geotextiles and clean cover materials (i.e., soil, asphalt, gravel, the multi-layer cap on the Consolidation Area, etc.) eliminates the potential for wind or runoff transport of surficial soil materials from beneath these covers.

3.4 POTENTIAL EXPOSURE PATHWAYS

Exposure pathways represent the locations (exposure points) where potential receptors could come into contact with Site COCs and the means or route by which a potential receptor may be exposed (e.g., direct contact, inhalation, ingestion). Potential exposure pathways are evaluated in this section. Table 1.1 summarizes potential exposure pathways as well as potential receptors and exposure routes that will be carried through the SLERA.

Under pre-IRM/IRA Site conditions (evaluated in the SCSR and RI/FFS Work Plan), a number of media presented in the CSM were considered as maintaining potentially available points of

exposure for ecological receptors. Response actions completed under the IRM/IRA have eliminated all potential points of exposure by an ecological receptor, as presented in the updated CSM presented in Figure 8. Evaluated media were as follows:

On-site Groundwater – Exposure to on-site groundwater is excluded from further consideration. The Site is currently fully enclosed by a barrier wall system, and groundwater within the barrier wall is collected and treated by the HCTS. Engineering controls and stormwater management system upgrades that control exposure to constituents in groundwater are in place. Discharge of impacted groundwater to surface water (wetlands) has been eliminated due to engineering controls.

Particulate and Volatile Emissions – Onsite and offsite exposures to particulates and volatile emissions are excluded from further consideration. Maintenance of the surface covers eliminates the potential for exposure to particulate emissions from soil or volatiles.

Site Soils – Exposure to COPECs in soil is excluded from further consideration under current land use conditions. Impacted surface soil has either been removed or covered and is no longer available for exposure to plants or animals. Note that the entire surface is either paved, covered with coarse gravel, or covered with clean borrow soils from off-site sources that have been vegetated.

3.5 POTENTIAL RECEPTORS

Surrounding land use was reviewed with a primary emphasis on the location of sensitive environmental areas. Land use within the 1,000-foot radius of the Site is industrial in nature. The following is a list of the closest known recreational areas previously identified in the SCSR, including the approximate ordinal direction relative to the Site, and approximate distance from the Site:

Type	Name	Address	Direction	Distance	
				Feet	Miles
Recreation Area	Laurel Hill Park	New County Road Secaucus, NJ	NNE	2,750	0.52
Recreation Area	Lincoln Park	State Route 440 Jersey City, NJ	SSE	5,700	1.08

As shown in the preceding table, there are no parks or recreational areas located proximate to the Site.

Appendix C presents the results of a query of New Jersey's i-MapNJ database. The i-MapNJ results identify the Hackensack River and wetlands surrounding the Site as possible ecological

receptors at or near the site. A Public Health Assessment was completed for the Site in 2005 (ATSDR, April 5, 2005). This report concluded that no Site-related constituents of interest had been measured in marine life. The barrier wall system prevents communication between impacted Site media and the Hackensack River and the wetlands on and adjacent to the Site have been remediated. The i-MapNJ database also identifies numerous sites included in the New Jersey Environmental Management System (NJEMS) in the vicinity to the site. The entire area of the Site and surrounding areas is identified as a Groundwater CEA. A map of impervious surfaces shows the high degree of development in this area demonstrating that the Site is not an important ecological resource for terrestrial wildlife. As stated previously in Section 2.0, the Site refers to the definition of the "Site" in the Agreement and the RI/FFS SOW.

The Site is located adjacent to the Hackensack River at the southern end of the Hackensack Meadowlands District (HMD). The HMD is an important ecological resource and is an Atlantic flyway stopover and nesting point for migratory birds. No federally-listed threatened or endangered species have been observed onsite to date. According to the ATSDR Public Health Assessment, state-listed species such as northern harrier hawks (*Circus cyaneus* – state endangered list), black-crowned night herons (*Nycticorax nycticorax* – state threatened list), and yellow-crowned night herons (*Nyctanassa violacea* – state threatened list) were alleged to roost at the Site, but no actual observation of these species has occurred at the Site. Additionally, according to the United States Fish and Wildlife Service, state- and federally-listed threatened or endangered species have historically been observed in the Hackensack River watershed, and include the following: bald eagle (*Haliaeetus leucocephalus* – state endangered list); shortnose sturgeon (*Acipenser brevirostrum* – federal endangered list), dwarf wedgemussel (*Alasmidonta heterodon* – federal endangered list), bog turtle (*Clemmys muhlenbergii* – federal threatened list), and Indiana bat (*Myotis sodalis* – federal endangered list). Additionally, the osprey (*Pandion haliaetus*) is identified as a threatened species in the April 2, 2012 update to New Jersey's List of Endangered and Threatened Wildlife.

The USEPA offered several observations regarding potential ecological receptors and surrounding land and water use in their SCSR comment letter dated February 7, 2013 and in their RI/FFS Work Plan comment letter dated June 25, 2013, as follows:

- The Atlantic sturgeon (*Acipenser oxyrinchus*) was added to the federal endangered species list in February 2012 (77 FR 5880).
- Essential Fish Habitat (EFH) information on the website of the Northeast Regional Office of the National Oceanic and Atmospheric Administration (NOAA) Office of Habitat Conservation indicates that the area of Hackensack River adjacent to the Site is designated EFH for one or more life stages of red hake (*Urophycis chuss*), winter flounder (*Pleuronectes americanus*), windowpane (*Scopthalmus aquosus*), Atlantic herring (*Clupea*

harengus), bluefish (*Pomatomus saltatrix*), Atlantic butterfish (*Peprilus triacanthus*), summer flounder (*Paralichthys dentatus*), and black sea bass (*Centropristus striata*).

- According to the United State Fish and Wildlife Service New Jersey Field Office website and the National Marine Fisheries Service, no other federally listed or proposed endangered or threatened species or critical habitats other than those listed above in this section are located in Hudson County, New Jersey. In consideration of the above, the project is not likely to adversely affect federally-listed or proposed threatened or endangered species or critical habitat.
- There are no wild and scenic rivers, coastal barriers, wilderness areas, or significant agricultural lands on or in the vicinity of the Site. The Site is not located within the State of New Jersey's designated coastal zone. Therefore, the Wild and Scenic Rivers Act, the Coastal Barriers Resources Act, the Wilderness Act, the Farmland Protection Policy Act, and the Coastal Zone Management Act are not considered Applicable or Relevant and Appropriate Requirements / To Be Considered (ARARs/TBC) for this Site.

Furthermore, the USEPA's February 7, 2013 comments on the SCSR and June 25, 2013 comments on the RI/FFS Work Plan indicated that the USEPA is aware of wetland mitigation completed to date and that any future impacts to wetlands as a result of implementation of remedial action will similarly require mitigation.

The USEPA's February 7, 2013 comments on the SCSR and June 25, 2013 comments on the RI/FFS Work Plan indicated that, according to available Geographic Information System (GIS) layers, much of the Site is located within the 100-year floodplain as determined by the Federal Emergency Management Agency. Accordingly, if any future remedial action will be conducted on-site, a floodplains assessment will be needed. The USEPA's June 25, 2013 letter also identified location-specific ARARs/TBCs for future Site remedial actions consisting of the following:

- Executive Order 11988 (Floodplain Management);
- Executive Order 11990 (Protection of Wetlands);
- Statement of Policy on Floodplains/Wetlands Assessment for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) actions;
- Magnuson-Stevens Fishery Conservation and Management Act; and,
- National Historic Preservation Act (NHPA).

As part of the permitting process and coordination of an Engineering Evaluation/Cost Analysis with USEPA for the implementation of the 2008 IRAW, pertinent location-specific ARARs were reviewed relative to the IRA activities. Three of the preceding items were identified as potential

ARARs/TBCs (the Executive Orders and NHPA) as well as Federal Coastal Zone Management requirements, the Endangered Species Act of 1973, and the Fish and Wildlife Coordination Act. A review summary letter (KEY, September 14, 2009) was provided to the USEPA and subsequently, an approval letter (USEPA, June 11, 2010) was issued by USEPA. The Statement of Policy on Floodplains/Wetlands Assessment and the Magnuson-Stevens Fishery Conservation and Management Act are additional potential ARARs/TBCs for the Site that will be considered for any future remedial activities.

3.6 CSM SUMMARY

The completed IRMs and IRAs have covered and/or capped all surficial materials, removed significant structures with the exception of four historical structures associated with the historic operations of Thomas A. Edison, Inc., encircled the Site and all or parts of adjacent properties with a subsurface barrier wall, stabilized soft surficial materials in the former lagoons, and removed sediments and impacted soils and placed them beneath an engineered capping system in the consolidation area within the Site. Therefore, response actions at the Site have eliminated all potential pathways for exposure by potential ecological receptors.

The absence of complete exposure pathways to these receptors relies on the maintenance of the engineered controls and a continued prohibition against disturbance of the cover materials. Under foreseeable circumstances, the potential for future exposures can be effectively managed via administrative controls (i.e., the establishment of appropriate institutional controls and procedures to be followed, including consideration of potential ARARs/TBCs for the Site, during any future construction that involves disturbance of the IRM/IRA covers). In conclusion, under current and potential future Site conditions, there are no known complete exposure pathways for potential ecological receptors.

4.0 ECOTOXICITY SCREENING LEVELS

ERAGS specifies preferred toxicity data as representative of no-observed-adverse-effect-level (NOAEL) for long-term (chronic) exposures to a contaminant because ecological effects of most concern are those that can impact populations and include adverse effects on development, reproduction, and survivorship. Second in the hierarchy is a lowest-observed-adverse-effect-level (LOAEL) for chronic exposure. In summary, for each constituent for which a potentially complete exposure pathway exists, ERAGs specifies that the literature should be reviewed for the lowest concentration shown to produce adverse effects on a potential receptor species.

For this SLERA, ecotoxicity screening levels have not been identified because there are no complete exposure pathways to impacted Site media.

5.0 SELECTION OF CHEMICALS OF POTENTIAL ECOLOGICAL CONCERN

Because no potentially complete pathways exist, selection of COPECs is not conducted in this SLERA. However, existing analytical results for samples collected during previous investigations at the Site are included in Appendix A for reference.

6.0 SCREENING-LEVEL RISK CALCULATION

As required by Appendix A, Section VIII, Paragraph B.1 of the Agreement, "The SLERA shall be based on data representative of potential exposures that may remain upon completion of the ongoing Interim Response Action." If a screening-level risk calculation was required to be performed for the Site, the hazard quotient (HQ) approach would be used to estimate risk. The HQ approach compares exposure point estimates to the screening ecotoxicity values and is identified as an adequate estimation of risk according to ERAGs. The HQ is expressed as the ratio of a potential exposure level to the ecotoxicity value, as follows:

$$\text{Hazard Quotient} = \frac{\text{Exposure Point Estimate}}{\text{ECO-SSL}}$$

Exposure Point Estimate – the maximum concentration of the COPEC detected in media present within a complete exposure pathway

ECO-SSL – Ecotoxicity screening value

An HQ of less than one would indicate that a contaminant alone is unlikely to cause adverse ecological effects. However, risk calculations cannot be completed because there is no complete exposure pathway for the Site, and thus the SLERA did not identify any exposure point estimate or ecotoxicity value.

7.0 SCIENTIFIC/MANAGEMENT DECISION POINT (SMDP)

The CSM has identified that under current Site conditions, there are no known complete exposure pathways for the potential ecological receptors identified for the Site. The IRMs and IRA completed as of 2012 have covered and/or capped all surficial materials, removed significant structures with the exception of four historical structures associated with the historic operations of Thomas A. Edison, Inc., encircled the Site and all or parts of adjacent properties with a subsurface barrier wall system, stabilized soft surficial materials in the former lagoons, and removed impacted soils and placed them beneath an engineered capping system in the consolidation area within the Site.

The Scientific/Management Decision Point of this SLERA is that there is adequate information to conclude that ecological risks are negligible and there is no need to remediate on the basis of ecological risk.

It is the conclusion of this SLERA that a BERA is not required for the Site.

8.0 REFERENCES

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TABLE

TABLE 1.1
SELECTION OF EXPOSURE PATHWAYS
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT
STANDARD CHLORINE CHEMICAL COMPANY, INC. SITE
KEARNY, NEW JERSEY

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Exposure Route	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Onsite Groundwater	COPECs in onsite groundwater migrate to a surface water body	Hackensack River, onsite wetlands, offsite wetlands or groundwater	Hackensack River, Fish, amphibians, birds, benthic organisms	Ingestion Inhalation Dermal Contact	Excluded. The Site is currently fully enclosed by a barrier wall system, and groundwater recovery/treatment and DNAPL recovery/offsite disposal are underway. Engineering controls and storm water management system upgrades that control exposure to constituents in groundwater are in place.
Current/Future	Onsite Soil	Particulate and volatile emissions	If soil cover is disturbed for any reason, direct exposure may occur to soil and to COPECs transferred to airborne particulates	Migratory birds and transient animals	Inhalation	Excluded. Air monitoring conducted during the implementation of various IRAs indicated that even when soil disturbances occurred, impacts were negligible.
Current/Future	Onsite Soil	COPECs in surface soil	If soil cover is disturbed for any reason, direct exposure may occur to soil and to COPECs	Migratory birds and transient animals	Ingestion Dermal Contact	Excluded. Current Site conditions are not suitable for supporting important ecological resources. Based on the redevelopment plan, future pathways for ecological receptors do not exist.

FIGURES



QUADRANGLE LOCATION

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES
OF JERSEY CITY, AND WEEHAWKEN, NEW JERSEY

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

PERFORMING PARTIES GROUP

DRWN: SCC DATE: 03/14/14
CHKD: RJM DATE: 03/14/14
APPD: JSZ DATE: 03/14/14
SCALE: 1" = 2000'



SLERA
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

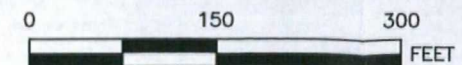
SITE LOCATION MAP

PROJECT NO: 2014-01
FIGURE 1



LEGEND

--- PROPERTY BOUNDARY



PERFORMING PARTIES GROUP

DRWN: SOC	DATE: 03/14/14
CHKD: AH	DATE: 03/14/14
APPD: JSZ	DATE: 03/14/14
SCALE:	AS SHOWN



SLERA
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

2012 AERIAL PHOTOGRAPH

PROJECT NO: 2014-01
FIGURE 2

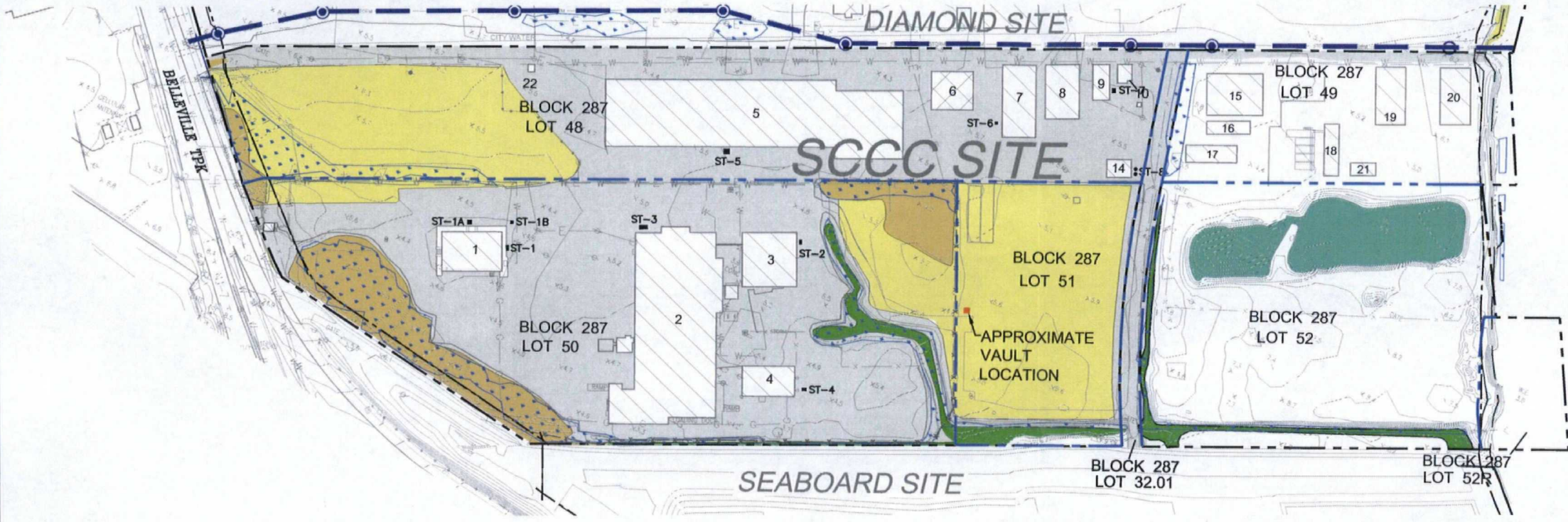
REFERENCE:

1. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
2. IMAGE PROVIDED BY GOOGLE EARTH DATED JUNE, 2012.

REV #	DATE	DESCRIPTION	APPD
1			
2			

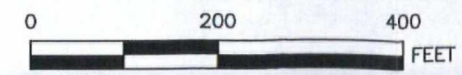
y:\00sw\kearny\kearny\figure 2 2012 aerial photograph.dwg Last Saved By: Scanner 3/14/2014 3:53 PM Plotted By: Shelly Conner 4/7/2014 12:00 PM Scale: 1:1

\\00000\keyenv\env\figs\3\historical site conditions.dwg, Last Saved By: Scorer, 3/14/2014 3:54 PM Plotted By: Shelly Comer 4/7/2014 12:00 PM Scale: 1:1



LEGEND

- PROPERTY BOUNDARY
- EXISTING SURFACE COVER IRM COMPRISED OF ASPHALTIC CONCRETE
- EXISTING SURFACE COVER IRM COMPRISED OF SOIL
- EXISTING SURFACE COVER IRM COMPRISED OF GEOMEMBRANE OVERLAIN WITH AGGREGATE
- EAST AND WEST LAGOONS
- SOUTH DITCH SOFT SOILS
- EXISTING WETLANDS
- EXISTING BUILDING
- FORMER BUILDING FOUNDATION
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINES
- EXISTING GAS LINES
- EXISTING STORM DRAIN
- 8-FOOT HIGH SECURITY FENCE WITH DUST CONTROL
- EXISTING STORM DRAIN (48" PIPE)
- EXISTING DROP INLET
- SEPTIC TANK LOCATION
- LOT BOUNDARY
- APPROXIMATE VAULT LOCATION (CONTENTS REMOVED ON JUNE 26, 2008)



REV #	DATE	DESCRIPTION	APPD
1	03/22/13	ADDED VAULT LOCATION.	JSZ

REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

PERFORMING PARTIES GROUP		
DRWN: SCC	DATE: 03/14/14	KEY ENVIRONMENTAL INCORPORATED
CHKD: AH	DATE: 03/14/14	
APPD: JSZ	DATE: 03/14/14	
SCALE: AS SHOWN		
SLERA STANDARD CHLORINE CHEMICAL CO., INC. SITE KEARNY, HUDSON COUNTY, NEW JERSEY		
HISTORICAL SITE ARRANGEMENT SHOWING INTERIM MEASURES (2008)		PROJECT NO: 2014-01 FIGURE 3

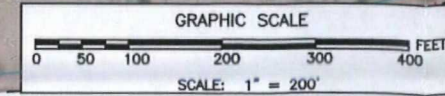


NOTE:
SHORELINE WETLAND PLANTING
REQUIREMENTS WERE OFFSET BY
OFF-SITE MITIGATION ARRANGEMENTS.

LEGEND

- PROPERTY BOUNDARY
- AS-BUILT MUDFLAT RESTORATION AREA 1.41 ACRES
- AS-BUILT FRESHWATER EMERGENT WETLAND MITIGATION AREA 1.28 ACRES
- TOTAL RESTORATION AREA 2.69 ACRES
- LIMIT OF PRE-EXISTING FRESHWATER EMERGENT WETLAND
- LIMIT OF PRE-EXISTING ISOLATED WETLAND
- PHOTOGRAPH LOCATION
- WETLAND NUMBER
- SLURRY WALL WORKING PLATFORM
- CATCH BASIN
- PIPE

NOTES:
1. THE LIMITS OF THE FRESHWATER EMERGENT WETLAND MITIGATION AREA WERE FIELD-ADJUSTED BASED UPON THE EXACT POSITION/ALIGNMENT OF THE REMEDIATED SOUTH DITCH SIDESLOPES. THESE ADJUSTMENTS WERE MADE WITHIN THE SOUTH DITCH AREA TO ENSURE THAT THE SPECIFIED MINIMUM MITIGATION AREA OF 1.20 ACRES IS PROVIDED.
2. AS-BUILT DRAWING WAS PREPARED BASED ON THE CORRESPONDING INTERIM RESPONSE ACTION CIVIL ENGINEERING DESIGN DRAWING. THIS AS-BUILT DRAWING DEPICTS MAJOR CHANGES TO OR DEVIATIONS FROM THE DESIGN DRAWING, AS DOCUMENTED BY FIELD INSPECTION BY KEY'S CQA PERSONNEL. AS-BUILT DIMENSIONS OR MEASUREMENTS MAY VARY SLIGHTLY FROM THOSE DEPICTED ON THIS AS-BUILT DRAWING.



REV #	DATE	DESCRIPTION	APPD

REFERENCE:
1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY, DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
3. EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.
4. IMAGE PROVIDED BY GOOGLE EARTH DATED JUNE, 2012.

ISSUE DATE:
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

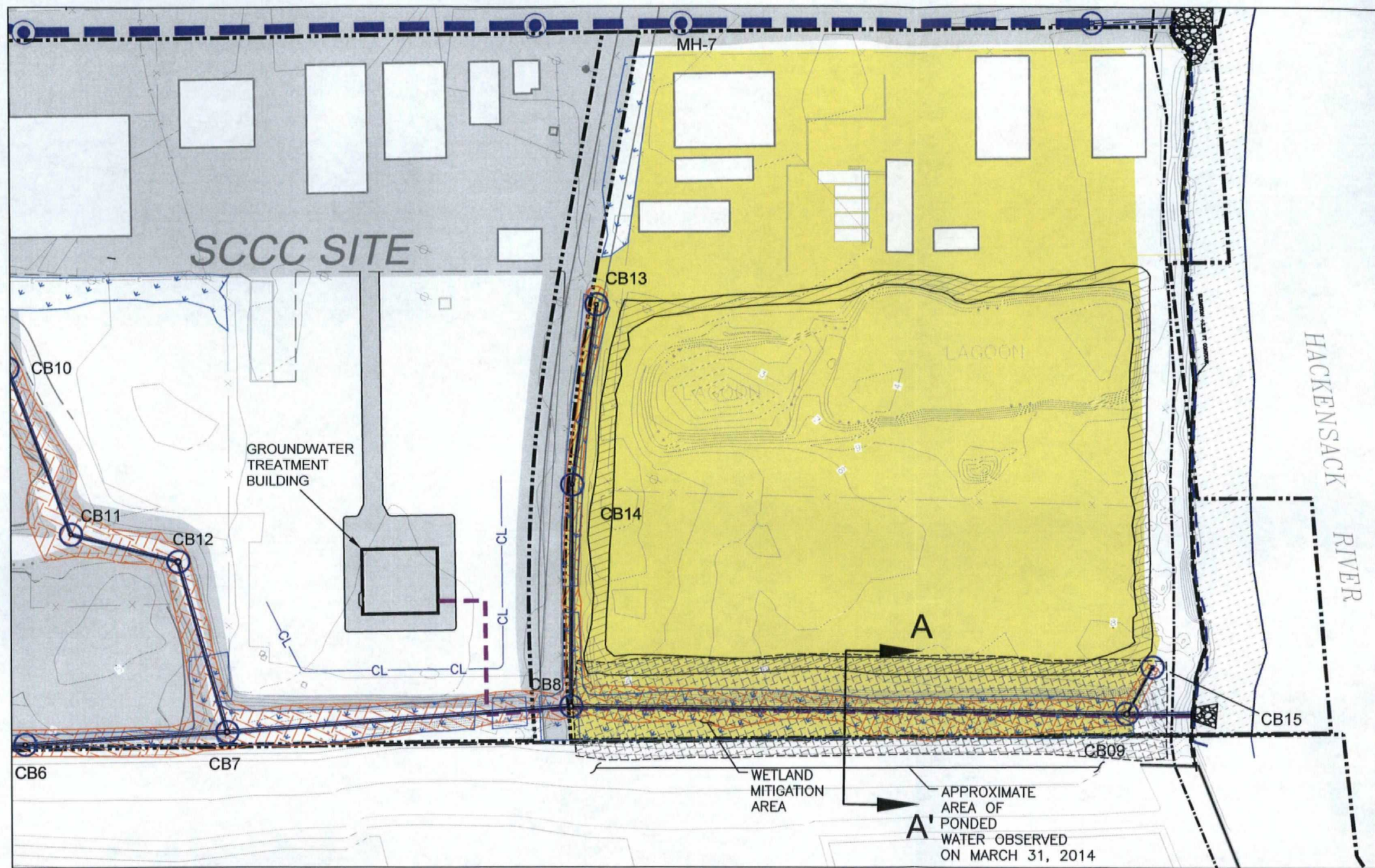
PERFORMING PARTIES GROUP

DRWN: SOC	DATE: 04/07/14	KEY ENVIRONMENTAL INCORPORATED
CHKD: KCF	DATE: 04/07/14	
APPD: JSZ	DATE: 04/07/14	
SCALE: AS SHOWN		

SLERA
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, NEW JERSEY

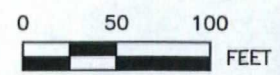
PHOTOGRAPH LOCATION MAP

PROJECT NO: 201401
FIGURE 5



LEGEND

- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- EXISTING STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- PROPERTY BOUNDARY
- EXISTING CONCRETE PAD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING ELEVATION (FEET-MSL)
- SLURRY WALL LOCATION
- STEEL SHEET PILE WALL LOCATION
- 3.38 MEAN HIGH WATER (MHW)
- EXISTING SURFACE COVER IRM COMPRISED OF ASPHALTIC CONCRETE
- EXISTING WETLANDS
- RIVER-BED EXCAVATION LIMITS
- DRAINAGE DITCH REMEDIATION (EXCAVATION AND BACKFILL)
- INTERIM SURFACE COVER
- CONTAINMENT BERM
- EXISTING STORM DRAIN (48" PIPE)
- CULVERT
- EXISTING DROP INLET
- DROP INLET
- INLET SEDIMENT PROTECTION
- COIR LOG/WATTLE
- RIPRAP APRON
- HCTS TREATED WATER PERMITTED DISCHARGE
- LIMIT OF GEOMEMBRANE LINER



NOTE:
1. TOPOGRAPHIC DATA FOR THE SEABOARD SITE REPRESENTS PROPOSED FINAL GRADE.

P:\000000\Seaboard\Seaboard.dwg, Last Saved By: Seaboard 9/11/2014 9:50 AM Plotted By: Shelly Conner 9/11/2014 9:57 AM Scale: 1:2

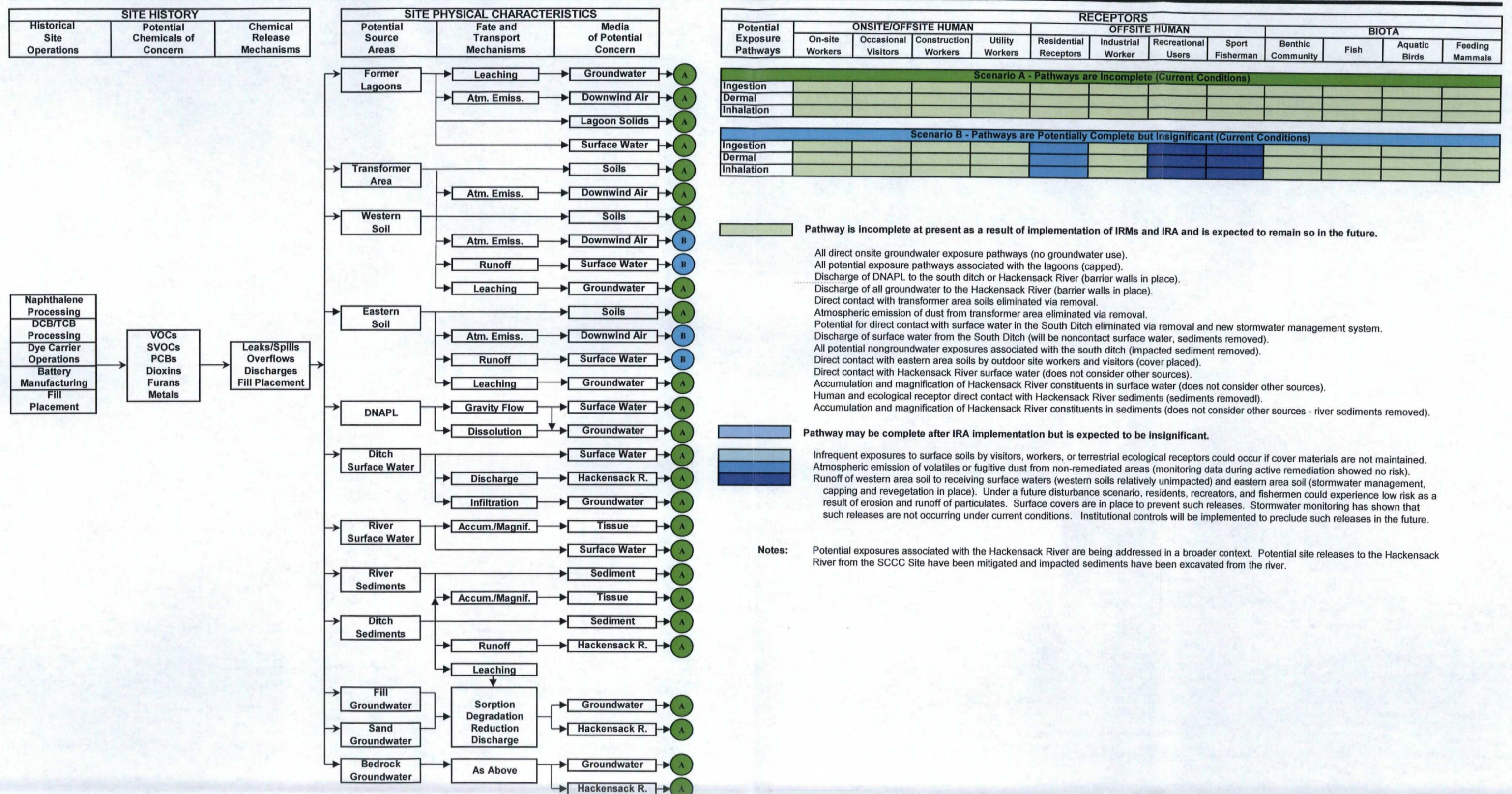
REV	DATE	DESCRIPTION	APPD

REFERENCE:
1. EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
2. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, PC.
3. EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.
4. DATA HEREON WAS OBTAINED FROM THE INTERIM RESPONSE ACTION DESIGN DRAWING ESC-01 PREPARED BY KEY ENVIRONMENTAL DATED 12-28-11.

ISSUE DATE:
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

PERFORMING PARTIES GROUP	
DRWN: SCC CHKD: JSZ APPD: JSZ SCALE: AS SHOWN	<div> <div>DATE: 08/01/14</div> <div>DATE: 08/01/14</div> <div>DATE: 08/01/14</div> </div> <div> <div>KEY ENVIRONMENTAL</div> <div>INCORPORATED</div> </div>
<div> <div>SLERA</div> <div>STANDARD CHLORINE CHEMICAL CO., INC. SITE</div> <div>KEARNY, HUDSON COUNTY, NEW JERSEY</div> </div>	
<div> <div>SOUTH DITCH</div> <div>WETLAND MITIGATION PLAN</div> </div>	<div> <div>PROJECT NO: 201401-03</div> <div>FIGURE 6</div> </div>

FIGURE 8
CONCEPTUAL SITE MODEL
SCCC SITE - KEARNY, NEW JERSEY



APPENDIX A

**COMPLETE FIGURES, TABLES, AND APPENDICES FROM THE SCSR
(DECEMBER 2012, REVISED MARCH 2013)
AND THE SCSR ADDENDUM (MARCH 28, 2014)
(ON CD)**

APPENDIX B

PHOTOGRAPHS OF CURRENT SITE CONDITIONS, MARCH 31, 2014

~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 1) View towards South from Outfall 003. Barrier wall separates site (on right) from Hackensack river (on left)



(Photo 2) View towards North from Outfall 003

~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 3) View of former process area from Outfall 003

~~~~~



(Photo 4) View towards treatment building from Outfall 003





(Photo 5) View of property line dividing SCCC site and Diamond site.  
This is the SCCC side looking west from outfall 003.



(Photo 6) View of property line dividing SCCC site and Diamond site.  
This is Diamond Site side looking west from outfall 003.



~ Appendix B ~

Photographs of Current Site Conditions, March 31, 2014



(Photo 7) View of Diamond site from Outfall 003

~~~~~



(Photo 8) View towards West from NE corner of consolidation area



(Photo 9) View towards South from NE corner of consolidation area

~~~~~



(Photo 10) View of DNAPL recovery wells in center of consolidation area from NE corner



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 11) View of wetlands located immediately west of Outfall 001

~~~~~



(Photo 12) View looking southwest from Outfall 001



(Photo 12b) View looking Southwest from Outfall 001
(Topographic Low Area on Seaboard Site) - July 30, 2014

~~~~~



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 13) View towards SW (Seaboard site) from Outfall 001

~~~~~



(Photo 14) View towards South (Seaboard site) from Outfall 001



(Photo 15) View of HCWU-21 from southern end of consolidation area cap

~~~~~



(Photo 16) View towards South from the southern edge of the consolidation area cap



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



**(Photo 17) View of treatment building from the SW corner of the consolidation area cap**

~~~~~



(Photo 18) View towards North (from SW corner of consolidation area) of wetlands along the western perimeter of the consolidation cap



(Photo 19) View towards SE of the wetlands located West of the treatment building

~~~~~



(Photo 20) View towards South of the wetlands located West of the treatment building





(Photo 21) View of catch basin 10 near building 3 after heavy rain, during high tide

~~~~~



(Photo 22) View towards SE of Building 3

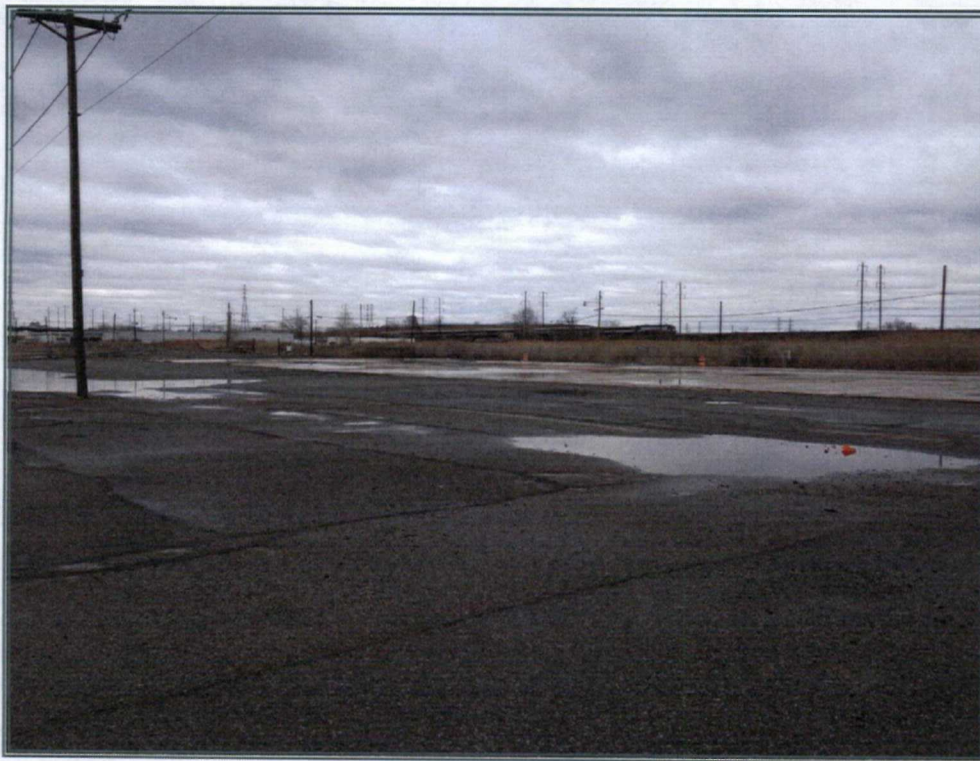
~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 23) View towards West with Buildings 2 and 3 on the left

~~~~~



(Photo 24) View towards NW from Building 3



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 25) View towards North from Building 3

~~~~~



(Photo 26) View towards East from the rear corner of Building 3 at wetlands

~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 27) View towards West behind Building 3

~~~~~



(Photo 28) View towards Southwest past rear corner of Building 4



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 29) View towards south from rear of Building 4 (wetlands)

~~~~~



(Photo 30) View towards NE from Building 4



(Photo 31) View towards East from the SW corner of Building 2

~~~~~



(Photo 32) View towards South from the SW corner of Building 2



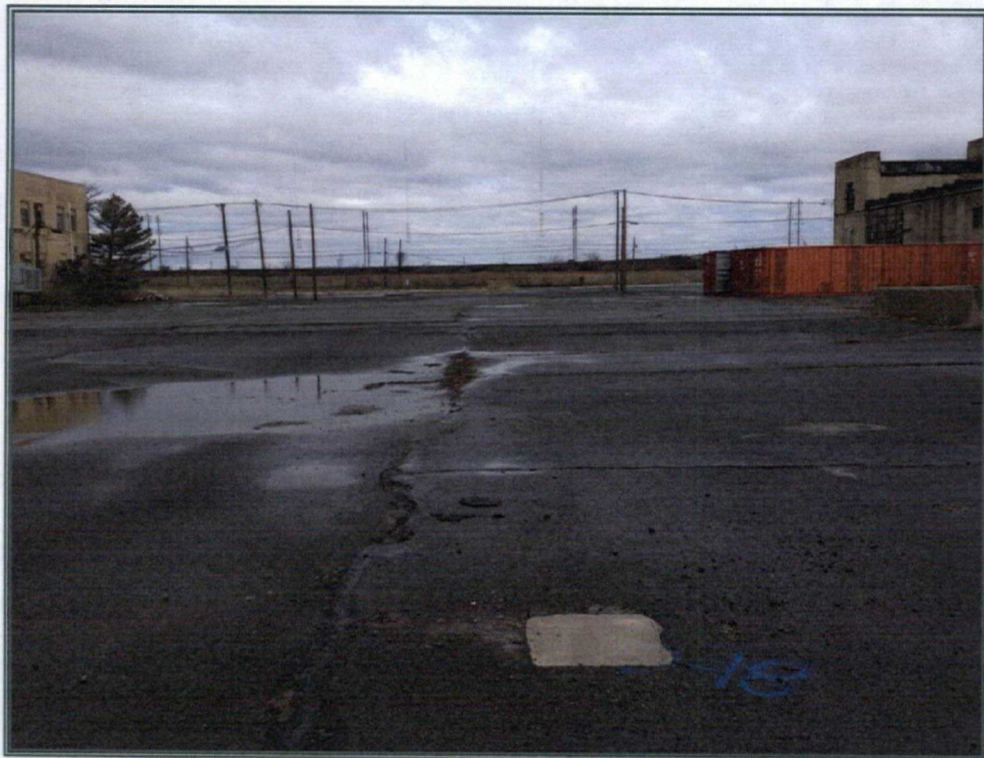
~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 33) View towards West from SW corner of Building 2

~~~~~



(Photo 34) View towards North from the SW corner of Building 2



(Photo 35) View towards NE at the Thomas Edison building from the SW corner of Building 2

~~~~~



(Photo 36) View towards SE at the SW corner of Building 2



~ Appendix B ~

Photographs of Current Site Conditions, March 31, 2014



(Photo 37) View towards NE while train is passing with Building 2 at right

~~~~~



(Photo 38) View towards West at entrance to site - old guard shack in view

~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 39) View towards south of slurry wall from Piezometer 16-L
(near entrance and old guard shack)

~~~~~



(Photo 40) View towards North of slurry wall (near entrance and  
old guard shack)





(Photo 41) Site view to the NE from the guard shack near the entrance

~~~~~



(Photo 42) View towards East, looking at the buildings from the old guard shack

~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014



(Photo 43) View towards East over the entire site from the NW corner of the SCCC site on top of the slurry wall.

~~~~~



(Photo 44) View towards SE from the NW corner of the SCCC site on top of the slurry wall



~ Appendix B~

Photographs of Current Site Conditions, March 31, 2014

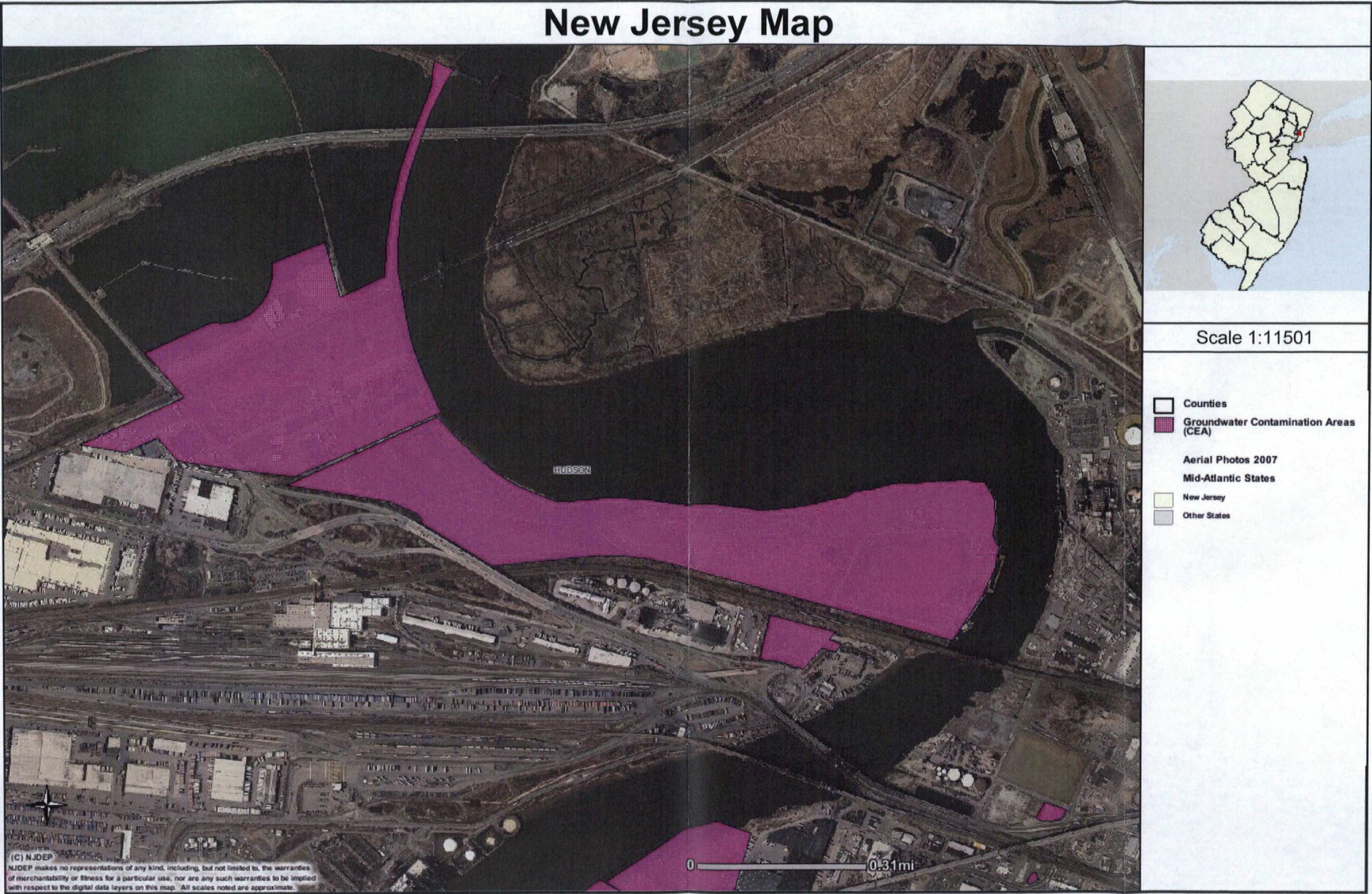


(Photo 45) View towards South from the NW corner of the SCCC site  
on top of the slurry wall

~~~~~


APPENDIX C

RESULTS OF NEW JERSEY'S i-MAPNJ DATABASE SEARCH

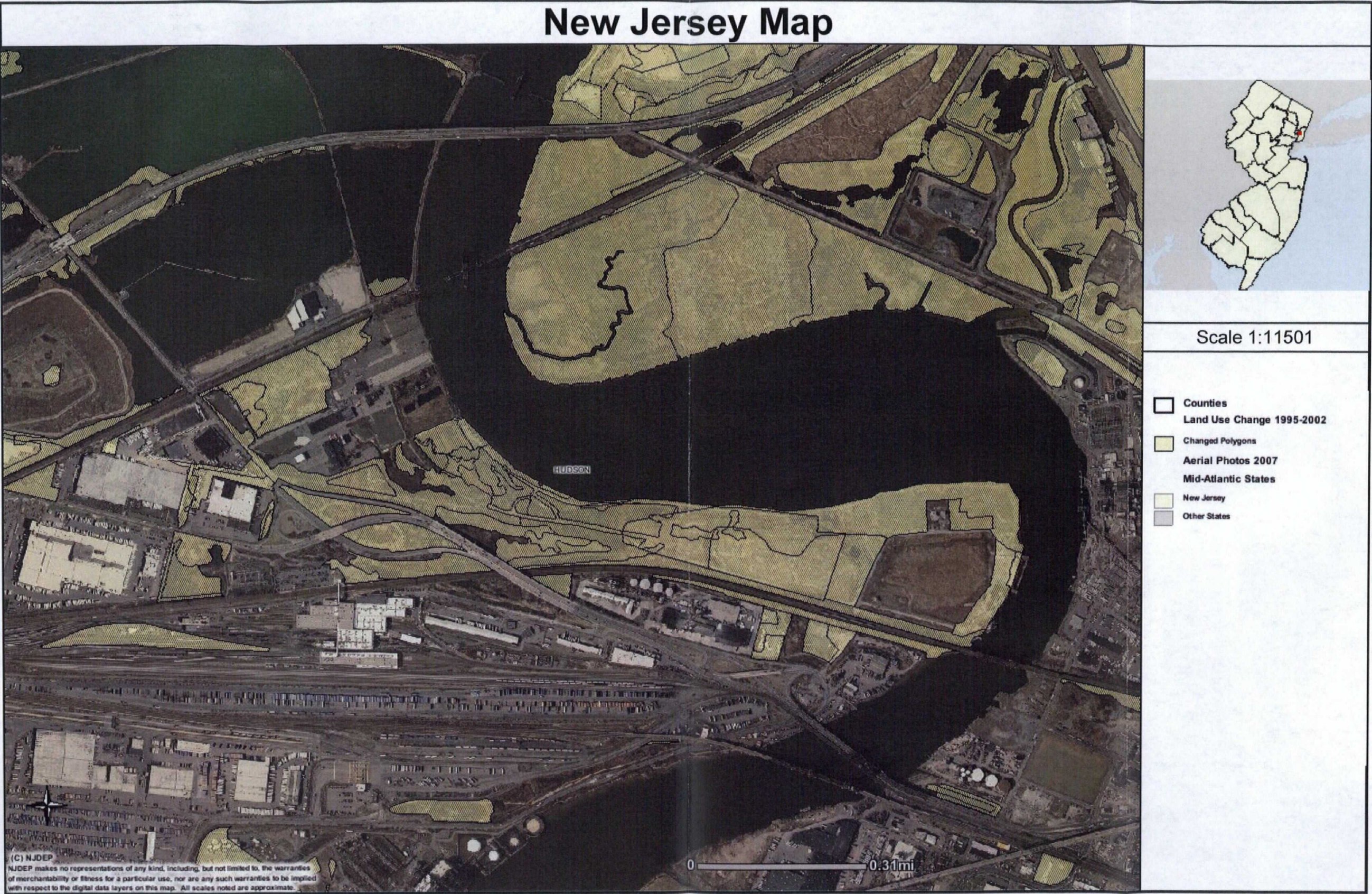


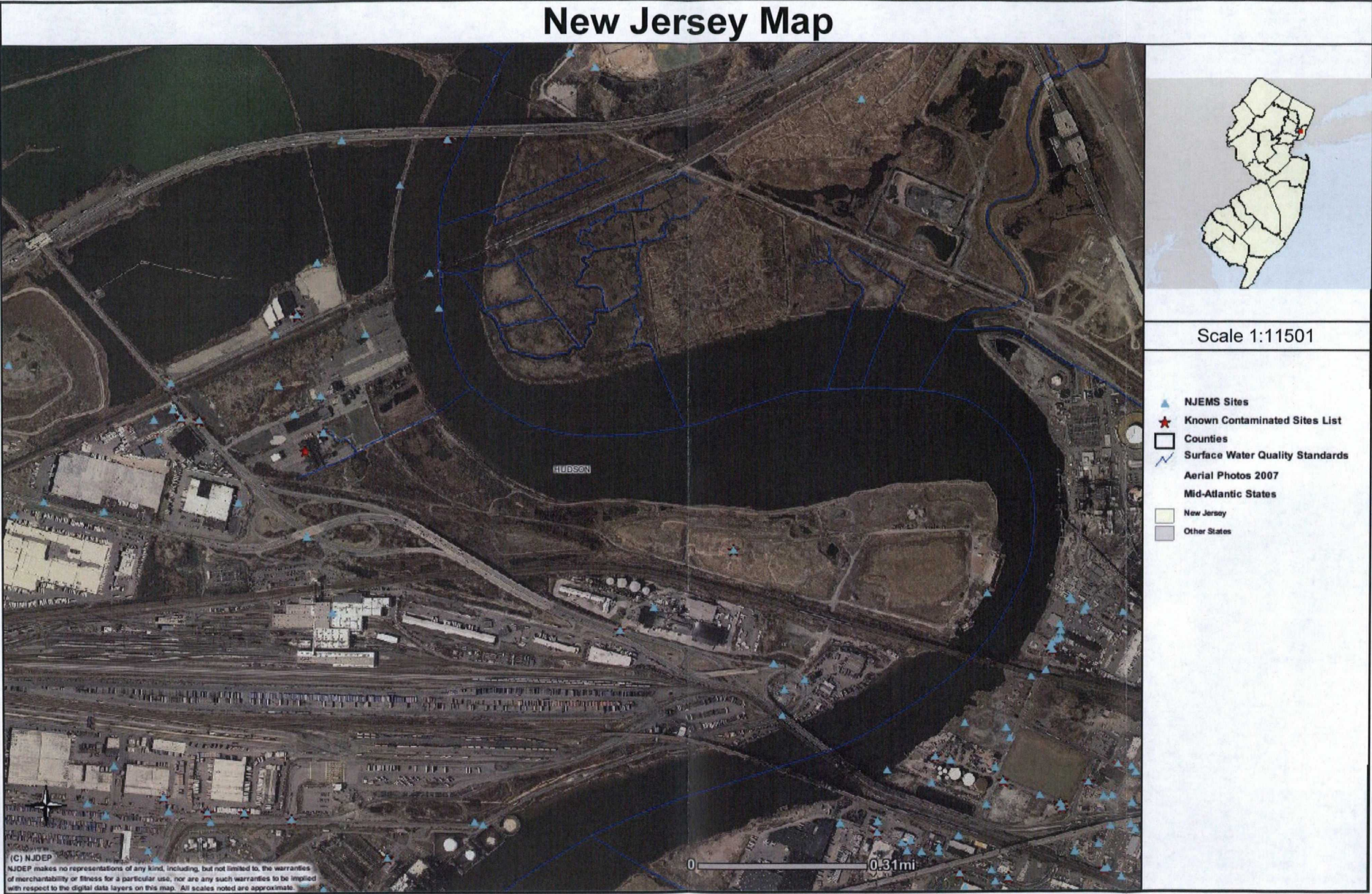


















APPENDIX A

COMPLETE FIGURES, TABLES, AND APPENDICES FROM THE SCSR
(DECEMBER 2012, REVISED MARCH 2013)
AND THE SCSR ADDENDUM (MARCH 28, 2014)
(ON CD)

**COMPLETE FIGURES, TABLES, AND APPENDICES
FROM THE SCSR
(DECEMBER 2012, REVISED MARCH 2013)**

FIGURES

Y:\Data\Kearny\Site Characterization summary report\Figure 1-1 site location map.dwg Last Saved By: Soomer 11/26/2012 2:58 PM Plotted By: Shelly Comer 12/7/2012 12:11 PM Scale: 1:101827



REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES OF JERSEY CITY, AND WEEHAWKEN, NEW JERSEY

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/05/12
CHKD: RJH	DATE: 11/05/12
APPD: JSZ	DATE: 11/05/12
SCALE: 1" = 2000'	

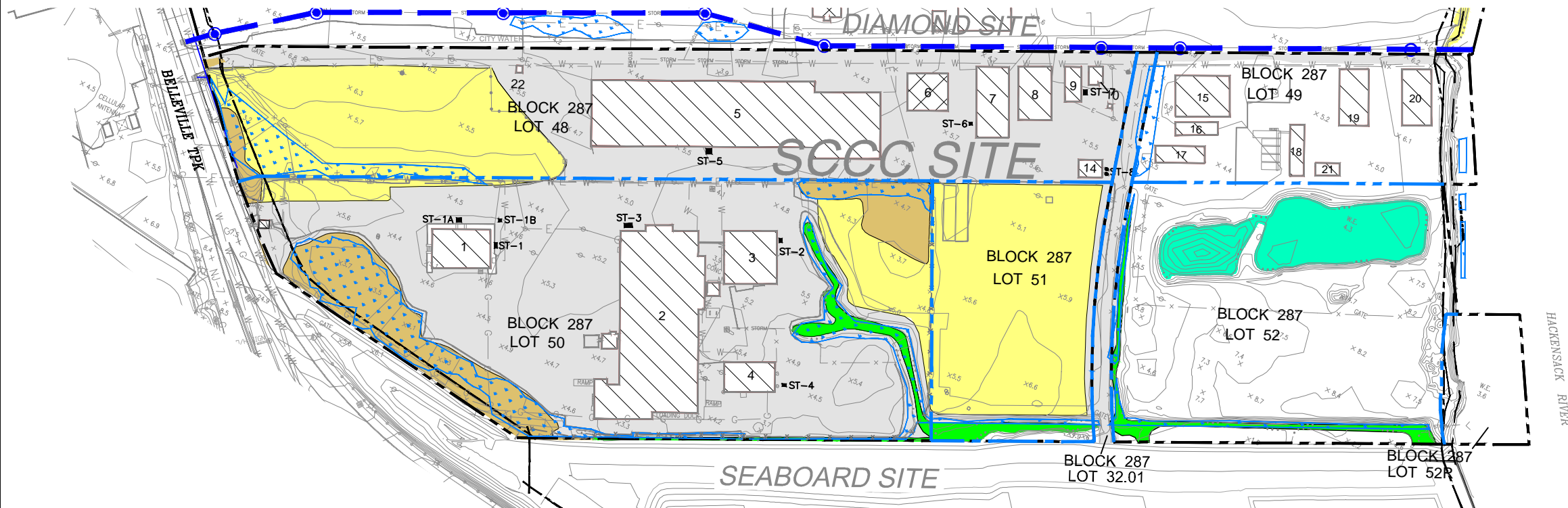


SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SITE LOCATION MAP

PROJECT NO: 2012-14
FIGURE 1-1

x:\000\keyenv\site characterization summary report\figure 2-1 historical site conditions.dwg Last Saved By: Scorer 12/6/2012 1:58 PM Plotted By: Shelly Comer 12/7/2012 12:11 PM Scale: 1:1



LEGEND

- PROPERTY BOUNDARY
- EXISTING SURFACE COVER IRM COMPRISED OF ASPHALTIC CONCRETE
- EXISTING SURFACE COVER IRM COMPRISED OF SOIL
- EXISTING SURFACE COVER IRM COMPRISED OF GEOMEMBRANE OVERLAIN WITH AGGREGATE
- EAST AND WEST LAGOONS
- SOUTH DITCH SOFT SOILS
- EXISTING WETLANDS
- EXISTING BUILDING
- FORMER BUILDING FOUNDATION
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING OVERHEAD POWER LINE
- EXISTING WATER LINES
- EXISTING GAS LINES
- EXISTING STORM DRAIN
- 8-FOOT HIGH SECURITY FENCE WITH DUST CONTROL
- EXISTING STORM DRAIN (48" PIPE)
- EXISTING DROP INLET
- SEPTIC TANK LOCATION
- LOT BOUNDARY

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/05/12
CHKD: RJH	DATE: 11/05/12
APPD: JSZ	DATE: 11/05/12
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

HISTORICAL SITE ARRANGEMENT
SHOWING INTERIM MEASURES (2008)

PROJECT NO: 2012-14
FIGURE 2-1

ISSUE DATE:

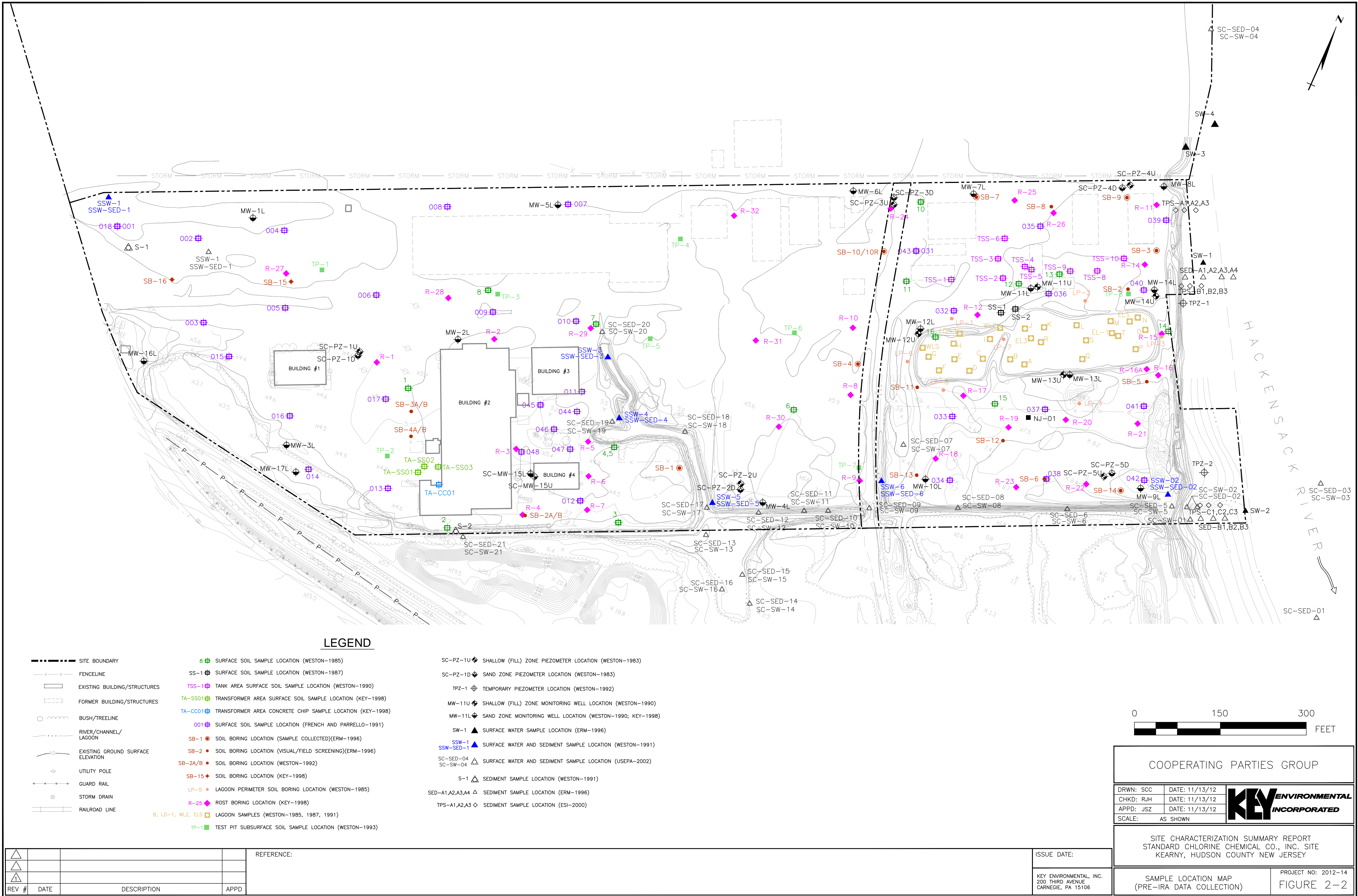
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REFERENCE:

- EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE: NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
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- EXISTING WETLANDS PER WETLAND DELINEATION BY PRINCETON HYDRO, LLC FOR KEY ENVIRONMENTAL, INC. PERFORMED IN MARCH 2009.

REV #	DATE	DESCRIPTION	APPD

v:\00envil\keenvy\site characterization summary report\figure 2-2.dwg Last Saved By: Scanner 12/7/2012 12:21 PM Plotted By: Shelly Cover 12/7/2012 2:51 PM Scale: 1:1



y:\000\keyenv\site characterization summary report\figure 2-3.dwg Last Saved By: Scomer 11/26/2012 3:37 PM Plotted By: Shelly Comer 12/7/2012 12:10 PM Scale: 1:1



LEGEND

- PROPERTY BOUNDARY
- x-x- EXISTING FENCE
- EXISTING STRUCTURES
- 5 --- EXISTING GROUND SURFACE ELEVATION CONTOURS
- ▲ ELWC-01 LAGOON SOLIDS SAMPLE LOCATION
- ◆ ELWS-01 LAGOON SURFACE WATER SAMPLE LOCATION
- ⊕ BW-5 BARRIER WALL ALIGNMENT SOIL BORING LOCATION
- ⊕ GT-1 GEOTECHNICAL SOIL BORING LOCATION (STABILITY/SETTLEMENT ANALYSIS)
- ▲ HRWC-03 HACKENSACK RIVER SEDIMENT SAMPLE LOCATION
- ▲ SDWC-01 SOUTH DITCH SEDIMENT SAMPLE LOCATION
- ⊕ SC-MW-13L SAND UNIT GROUNDWATER MONITORING WELL LOCATION
- ⊕ SC-MW-11U SHALLOW (FILL) UNIT GROUNDWATER MONITORING WELL LOCATION
- ⊕ SC-PZ-5U SHALLOW (FILL) UNIT PIEZOMETER LOCATION
- ⊕ TSWC-01 HYDRAULIC CONTROL SYSTEM IN-SITU TRENCH SPOIL WASTE CLASSIFICATION (TSWC) SAMPLE LOCATION
- CR-3 CHROMIUM DELINEATION BORING (3 SAMPLE DEPTHS)
- SC-SS-06 SURFACE SOIL SAMPLE LOCATION
- SEPTIC TANK LOCATION

0 250 500
FEET

COOPERATING PARTIES GROUP

DRWN: CC	DATE: 11/14/12	KEY ENVIRONMENTAL INCORPORATED
CHKD: RH	DATE: 11/14/12	
APPD: DJS	DATE: 11/14/12	
SCALE: AS SHOWN		

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

PHASE II SUPPLEMENTAL RI
AND IRA PRE-DESIGN
SAMPLE LOCATION MAP

PROJECT NO: 2012-14
FIGURE 2-3

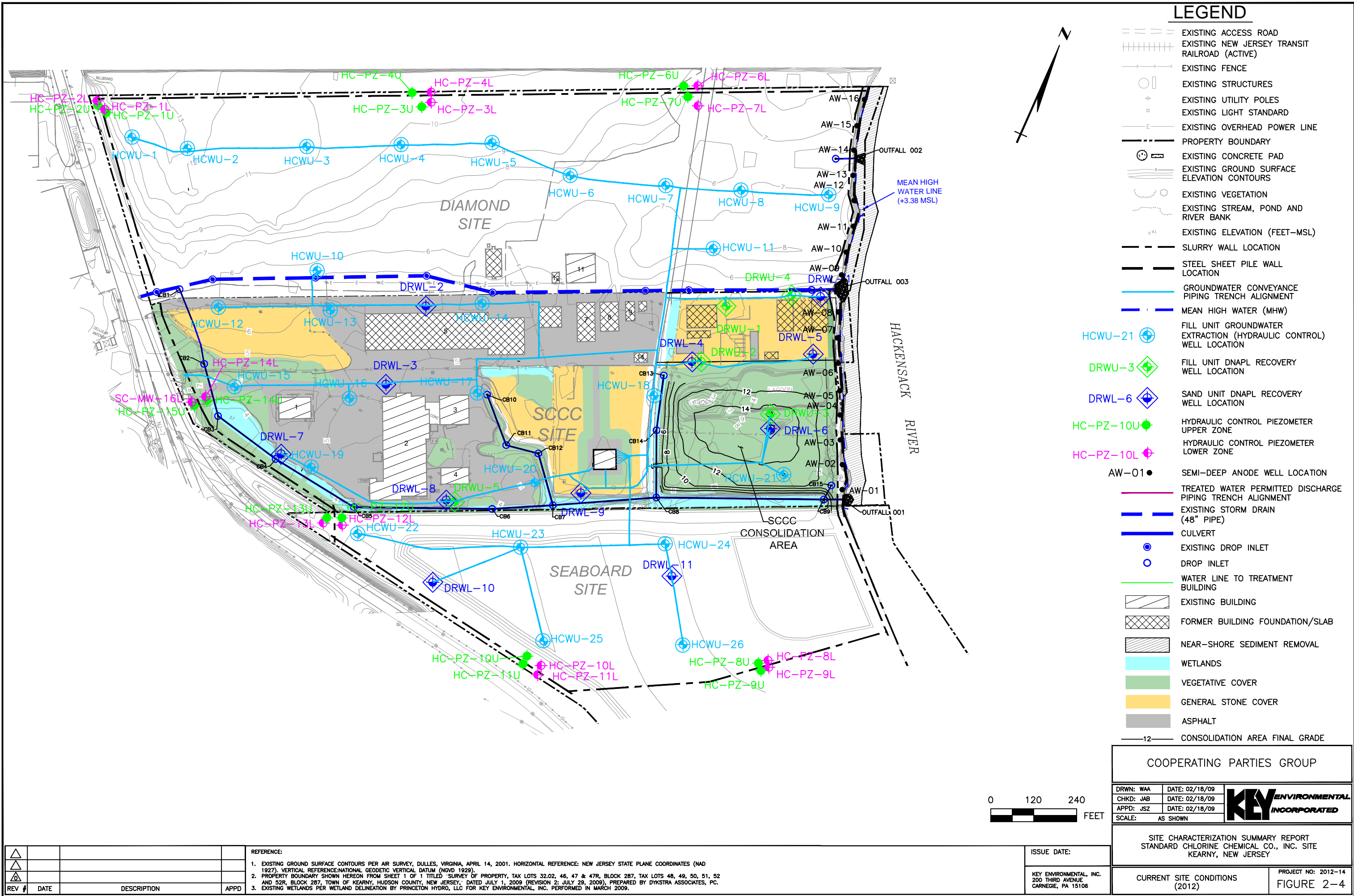
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

\\000001\keyenv\site characterization summary report\figure 2-4 site plan-current conditions.dwg Last Saved By: Somer 12/5/2012 2:57 PM Plotted By: Shelly Conner 12/7/2012 12:10 PM Scale: 1:2

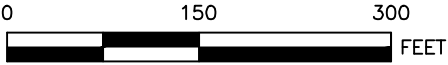


y:\Docu\Kearny\Site characterization summary report\Figure 2-5 2012 aerial photograph.dwg Last Saved By: Scanner 11/26/2012 3:38 PM Plotted By: Shelly Comer 12/7/2012 12:12 PM Scale: 1:1



LEGEND

--- PROPERTY BOUNDARY



COOPERATING PARTIES GROUP

DRWN: SCC DATE: 11/05/12
CHKD: RJH DATE: 11/05/12
APPD: JSZ DATE: 11/05/12
SCALE: AS SHOWN



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

2012 AERIAL PHOTOGRAPH

PROJECT NO: 2012-14
FIGURE 2-5

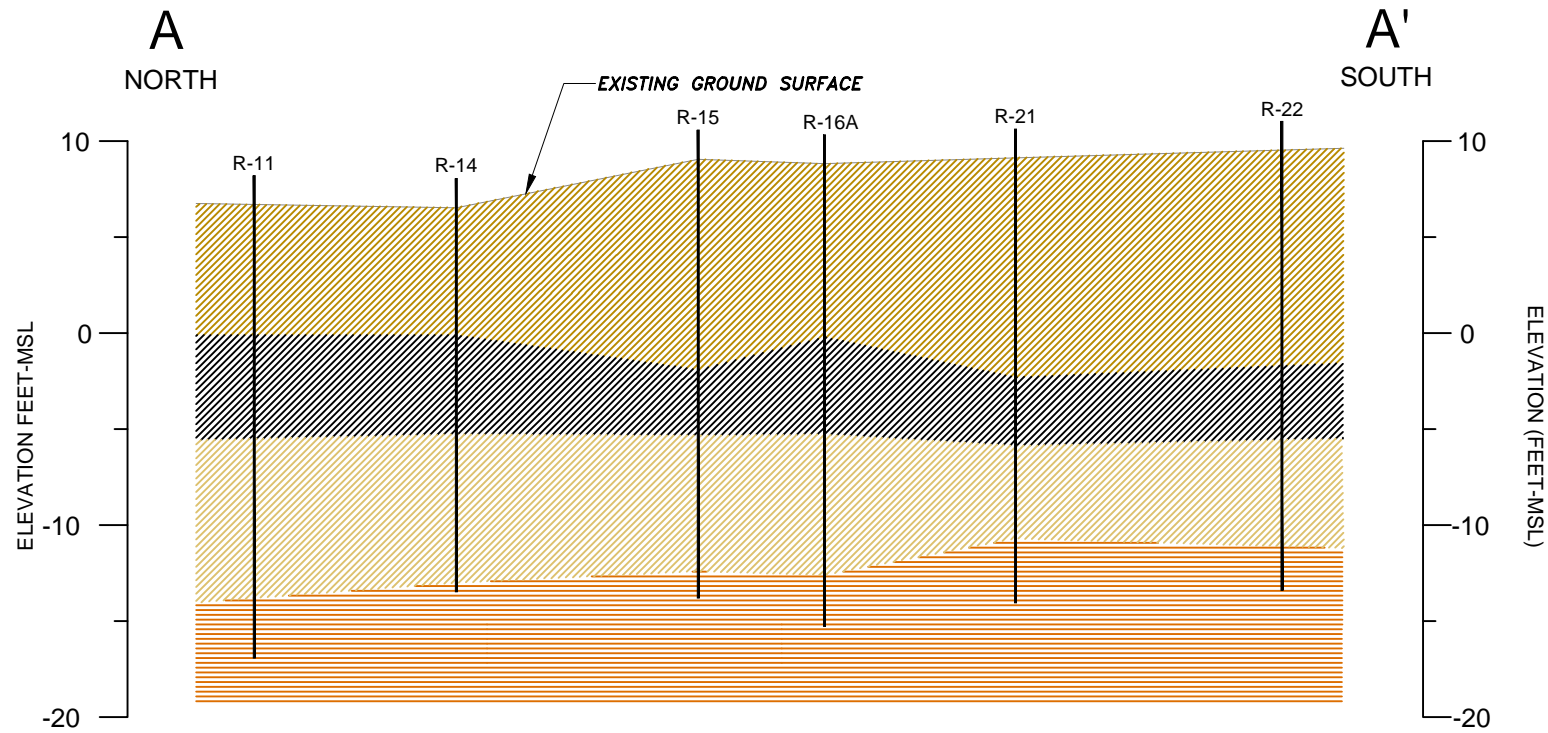
- REFERENCE:
1. PROPERTY BOUNDARY SHOWN HEREON FROM SHEET 1 OF 1 TITLED "SURVEY OF PROPERTY, TAX LOTS 32.02, 46, 47 & 47R, BLOCK 287, TAX LOTS 48, 49, 50, 51, 52 AND 52R, BLOCK 287, TOWN OF KEARNY, HUDSON COUNTY, NEW JERSEY," DATED JULY 1, 2009 (REVISION 2: JULY 29, 2009), PREPARED BY DYKSTRA ASSOCIATES, P.C.
 2. IMAGE PROVIDED BY GOOGLE EARTH DATED JUNE, 2012.

ISSUE DATE:

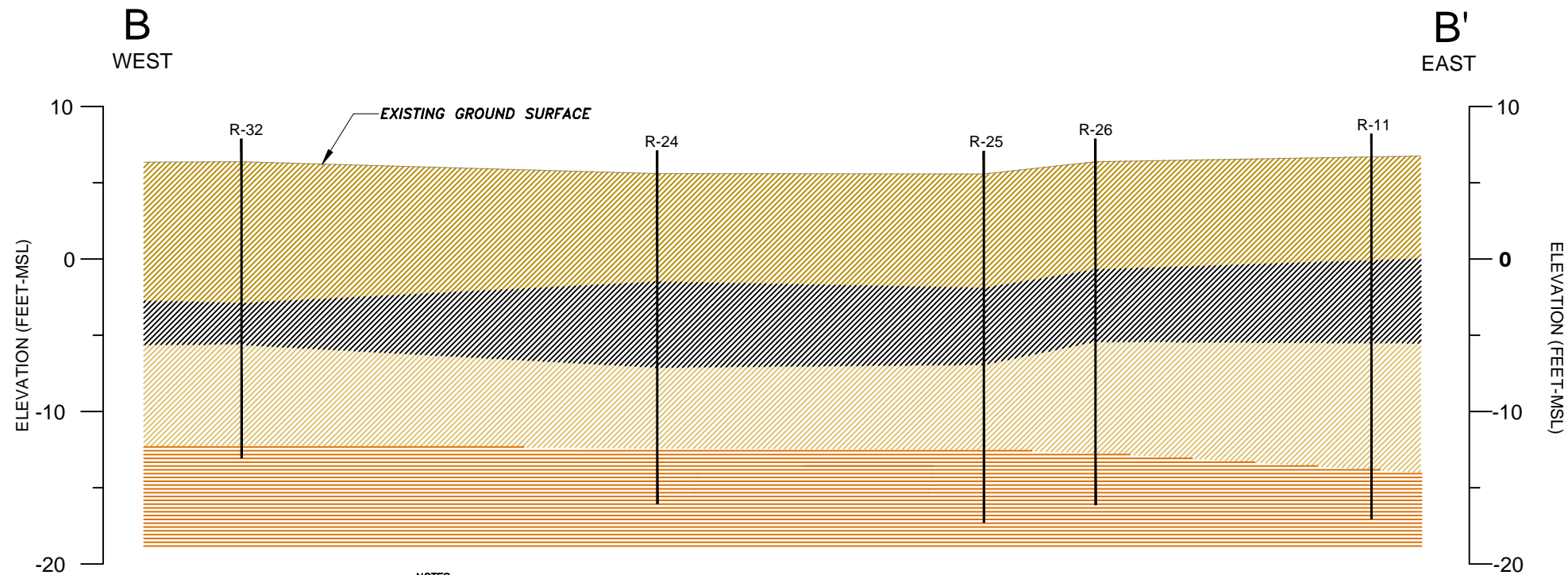
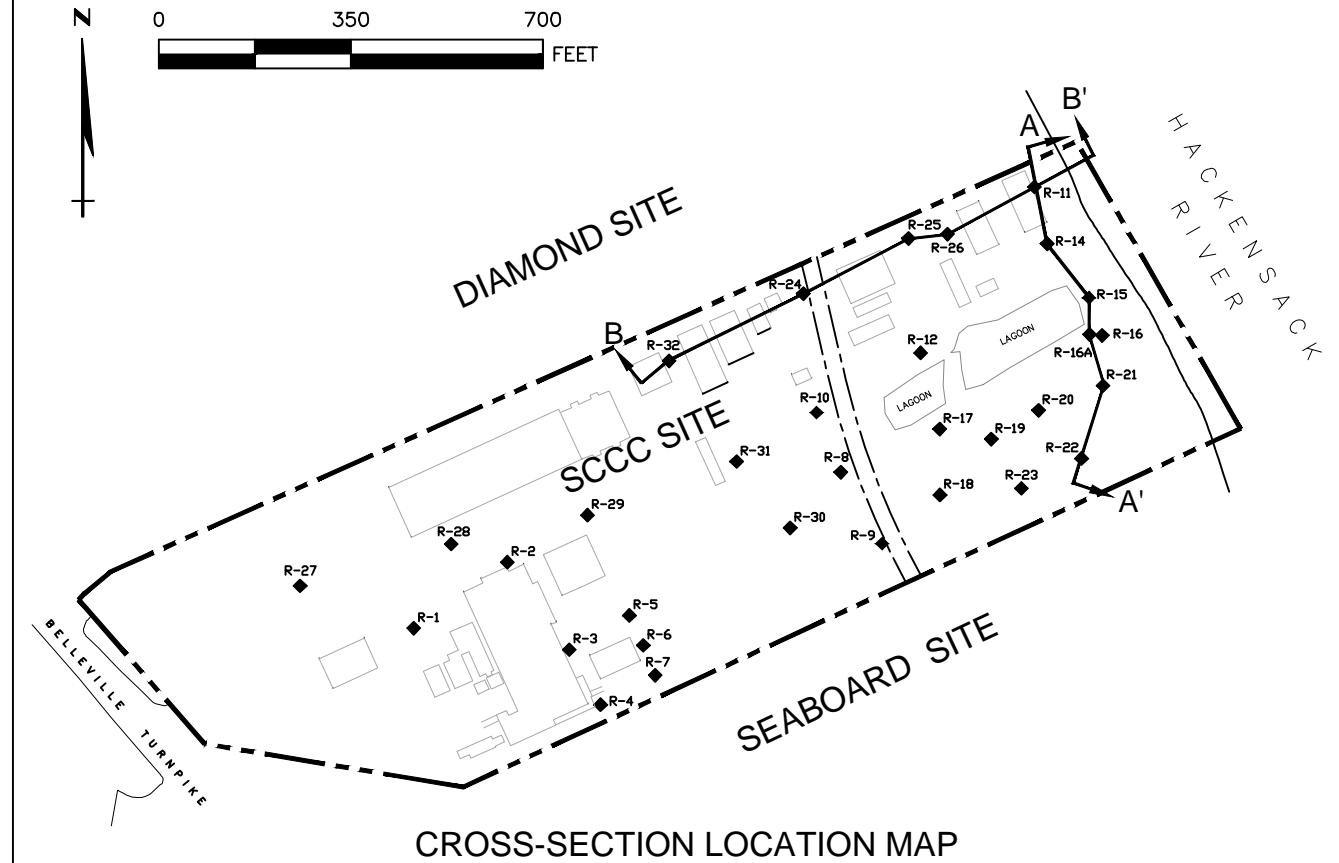
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD

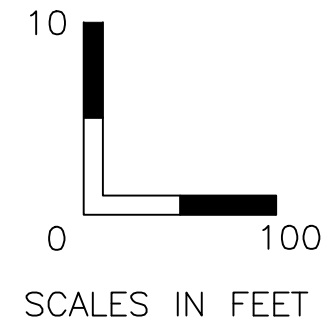
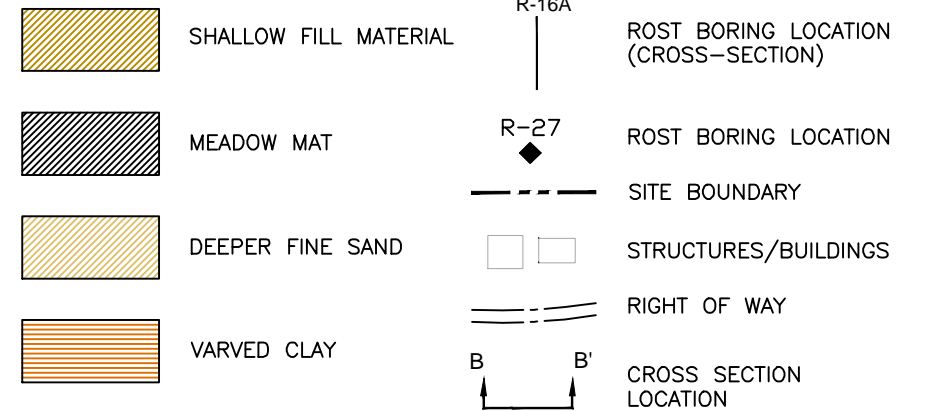
y:\000\keyenv\site characterization summary report\figure 3-1 geologic cross-section.dwg Last Saved By: Scanner 12/14/2012 2:54 PM Plotted By: Shelly Comer 12/7/2012 12:09 PM Scale: 1:1



ELEVATION (FEET-MSL)



ELEVATION (FEET-MSL)



NOTES:
1. GEOLOGIC CONTACTS ARE INFERRED BETWEEN ROST LOCATIONS.
2. HISTORICAL SITE CONDITIONS DEPICTED ON CROSS-SECTION LOCATION MAP.

REFERENCE: 1. STANDARD CHLORINE CHEMICAL COMPANY SITE SURVEY, NEGLIA ENGINEERING ASSOCIATES, JANUARY 1999.
ADDITIONAL BUILDING LOCATIONS OBTAINED FROM ERM, INC. FIGURES 1, 3-1, 3-2, 3-3 AND 3-4,
PROPOSED REMEDIAL ACTION PLAN, STANDARD CHLORINE SITE, KEARNY NEW JERSEY.
2. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

COOPERATING PARTIES GROUP

DRWN: SCC DATE: 11/14/12
CHKD: RJH DATE: 11/14/12
APPD: JSZ DATE: 11/14/12
SCALE: AS SHOWN

KEY ENVIRONMENTAL
INCORPORATED

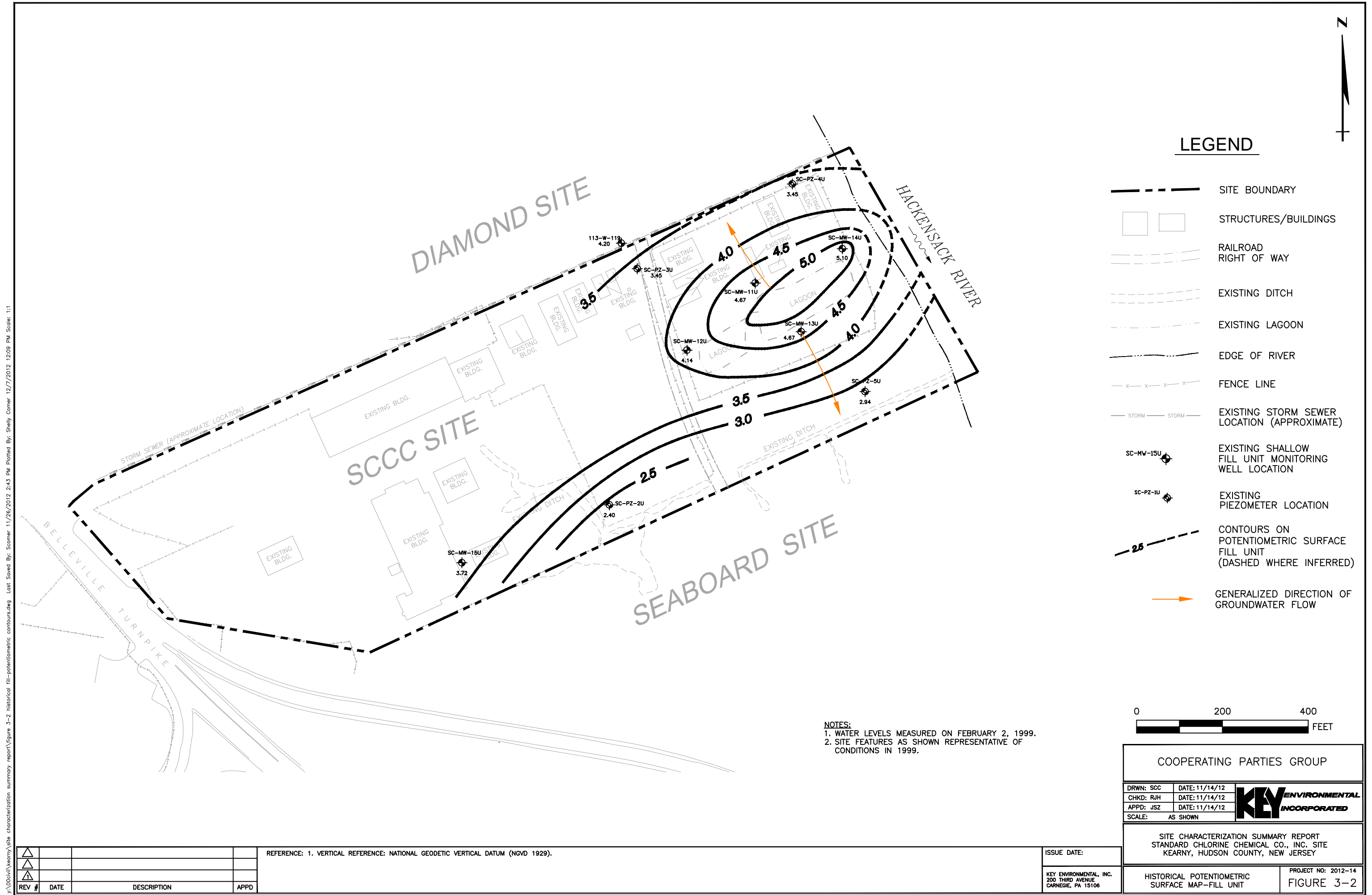
SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

GEOLOGIC CROSS-SECTION LOCATIONS
AND GEOLOGIC CROSS SECTIONS

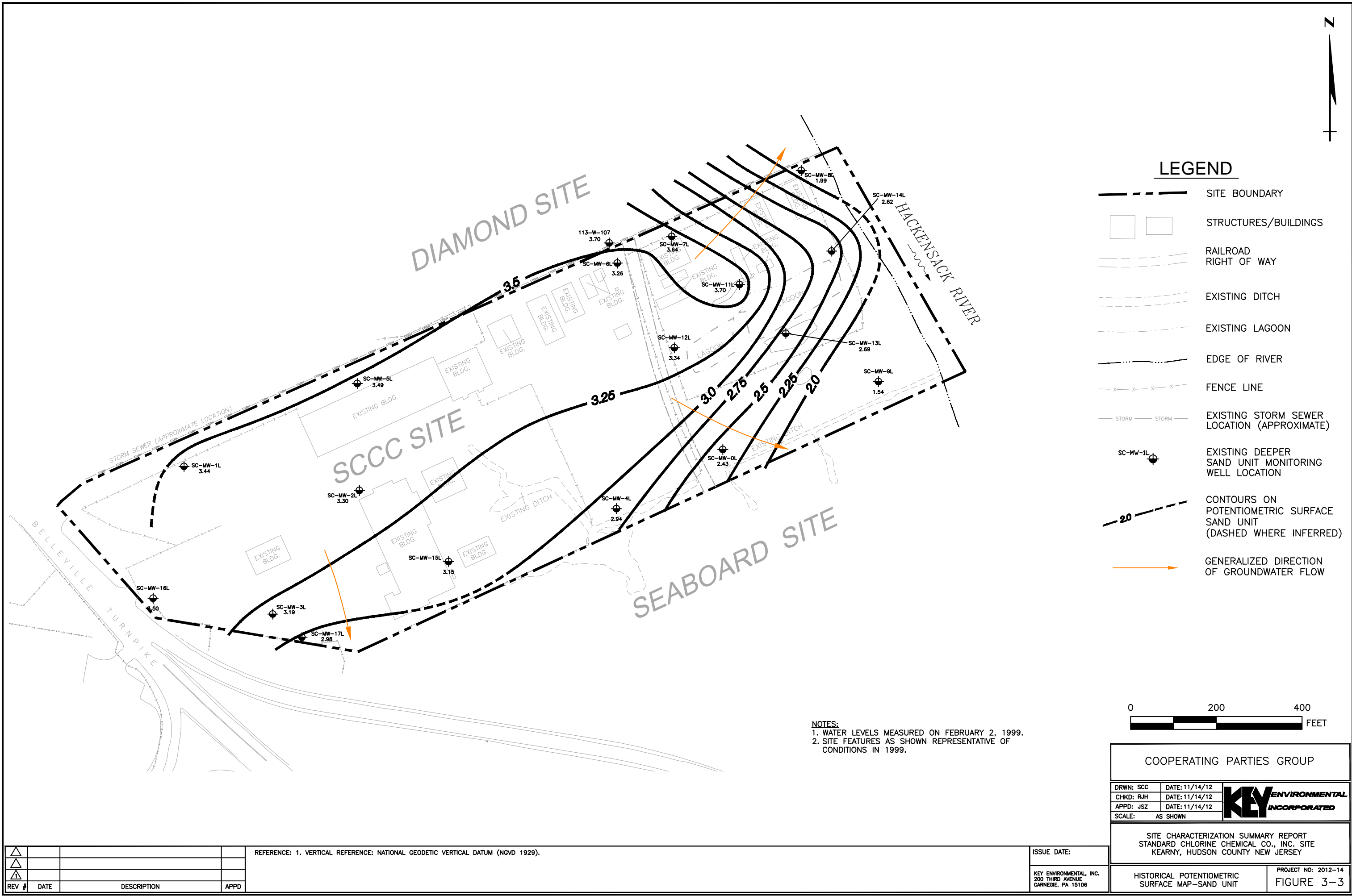
PROJECT NO: 2012-14
FIGURE 3-1

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REV #	DATE	DESCRIPTION	APPD

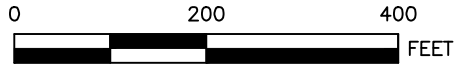
y:\000\keyenv\site characterization summary report\figure 3-2 historical fill-potentiometric contours.dwg Last Saved By: Scanner 11/26/2012 2:43 PM Plotted By: Shelly Comer 12/7/2012 12:09 PM Scale: 1:1



y:\000\keyenv\site characterization summary report\figure 3-3 historical sand-potentiometric contours.dwg Last Saved By: Soemer, 11/26/2012 3:19 PM Plotted By: Shelly Comer, 12/7/2012 12:12 PM Scale: 1:1



NOTES:
1. WATER LEVELS MEASURED ON FEBRUARY 2, 1999.
2. SITE FEATURES AS SHOWN REPRESENTATIVE OF
CONDITIONS IN 1999.



COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12
CHKD: RJH	DATE: 11/14/12
APPD: JSZ	DATE: 11/14/12
SCALE:	AS SHOWN



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY NEW JERSEY

HISTORICAL POTENTIOMETRIC
SURFACE MAP-SAND UNIT

PROJECT NO: 2012-14
FIGURE 3-3

REFERENCE: 1. VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

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REV #	DATE	DESCRIPTION	APPD

v:\00civ\kern\site characterization summary report\Figure 4-1 surface soil analytical results.dwg, Last Saved By: Scomer, 12/7/2012, 12:34 PM, Plotted By: Shelly, Corner, 12/7/2012, 2:54 PM, Scale: 1:0.5

COI	001	002	003	004	005	006	015	018
	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Metals								
Cr	722	17.5	1990	21.4	733	2000	520	224
Cr+6	2.7	3	270	3	8.2	16	3.4	3

COI	007	008	009	010
	08/01/91	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5	0-0.5
Metals				
Cr	2520	1490	2540	529
Cr+6	13	15	110	8.6

COI	SC-SS-02
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	4.5
BaP	5.2
BbF	10
DahA	1.3
HCb	0.16
I123P	6.6
PCBs	
1248	1.1

COI	031	032	043
	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5
Metals			
Cr	9900	5330	8570
Cr+6	14	0.65	0.15

COI	SC-SS-01
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	14
BaP	22
BbF	27
DahA	4.8
HCb	0.08
I123P	15
PCBs	
1248	0.31

COI	TSS-1	TSS-2	TSS-3	TSS-4	TSS-5	TSS-6	TSS-7	TSS-8	TSS-9	TSS-10
	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90	12/01/90
	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
VOCs										
124-TCB	75000	3040	6.36	14100	68200	30.1	25.4	28.3	100000	62.8
14-DCB	2230	4840	54.6	15	52.2	15.7	7.4	6.6	876	41.7
SVOCs										
BaA	49	11	13	12	20	13	13	12	14	12
BaP	16	3.84	34.1	6.58	6.4	4.91	4.95	3.8	4.6	3.7
BbF	30	6.9	65.8	16.7	14	11.6	8.7	7.2	33.1	7.1
DahA	16	3.6	7.28	3.8	6.4	4.3	4.2	3.8	4.6	3.7
HCb	45	137	3.1	30.4	359	56.9	21.1	2.9	34.8	23.8
I123P	23	5.4	35.9	10.5	9.5	10.1	11.3	5.6	11.1	7.66
NAP	2370000	167	191	5.02	4.1	51.8	7.31	16.7	3	2.4

COI	035	036	039	040
	08/01/91	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5	0-0.5
Metals				
Cr	11000	6480	11500	7050
Cr+6	0.39	0.26	195	0.24

COI	SC-SS-03
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	0.17
BaP	0.17
BbF	0.42
DahA	0.029
HCb	0.017
I123P	0.31
PCBs	
1248	0.1

COI	SC-SS-04
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	22
BaP	37
BbF	47
DahA	8.8
HCb	0.95
I123P	27
PCBs	
1248	2.5

COI	SC-SS-07
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	0.95
BaP	0.95
BbF	2.8
DahA	0.29
HCb	1.4
I123P	1.4
PCBs	
1248	0.0019

COI	033	034	037	038	041	042
	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Metals						
Cr	9900	18000	5120	18800	9390	11900
Cr+6	244	0.11	54	0.23	0.15	0.12

COI	SC-SS-09
	0.0-0.5 ft
	03/30/09
SVOCs	
BaA	2
BaP	1.5
BbF	1.7
DahA	0.27
HCb	0.028
I123P	0.75
PCBs	
1248	0.0017

COI	SC-SS-10
	0.0-0.5 ft
	03/30/09
SVOCs	
BaA	1.1
BaP	1
BbF	1.2
DahA	0.19
HCb	0.016
I123P	0.55
PCBs	
1248	0.002

COI	SC-SS-05
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	3.4
BaP	5
BbF	7.6
DahA	1.2
HCb	0.03
I123P	3.9
PCBs	
1248	0.0019

COI	SC-SS-06
	0.0-0.5 ft
	04/15/09
SVOCs	
BaA	0.063
BaP	0.81
BbF	4
DahA	0.37
HCb	0.96
I123P	1.9
PCBs	
1248	1.1

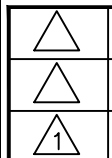
COI	SC-SS-11
	0.0-0.5 ft
	03/30/09
SVOCs	
BaA	4.7
BaP	7.5
BbF	7.6
DahA	1.5
HCb	0.075
I123P	4.9
PCBs	
1248	0.0047

COI	011	012	044	045	046	047	048
	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91	08/01/91
	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Metals							
Cr	579	129	579	95.7	59.7	142	188
Cr+6	30	3.6	0.26	0.13	0.14	0.14	0.28

Constituent of Interest (COI)	Abbreviation	Units	Criterion ⁽¹⁾
Volatile Organics (VOCs)			
1,2,4-Trichlorobenzene	124-TCB	mg/Kg	820
1,4-Dichlorobenzene	14-DCB	mg/Kg	13
Semivolatile Organic Compounds (SVOCs)			
Benzo(a)anthracene	BaA	mg/Kg	2
Benzo(a)pyrene	BaP	mg/Kg	0.2
Benzo(b)fluoranthene	BbF	mg/Kg	2
Dibenzo(a,h)anthracene	DahA	mg/Kg	0.2
Hexachlorobenzene	HCb	mg/Kg	1
Indeno(1,2,3-cd)pyrene	I123P	mg/Kg	2
Polychlorinated Biphenyls (PCBs)			
Aroclor 1248	1248	mg/Kg	1
Metals			
Chromium ⁽²⁾	Cr	mg/kg	120,000
Chromium (Hexavalent) ⁽²⁾	Cr+6	mg/kg	20

- NOTE:
- Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
 - Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance). Criterion for residential exposure to trivalent chromium was used for total chromium

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
U - Not detected at the detection limit indicated.



REV #

DATE

DESCRIPTION

APPD

REFERENCE:

- VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- EXISTING GROUND SURFACE ELEVATION CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929).
- PROPERTY BOUNDARY PER PAULUS, SOKOLOWSKI, SARTOR, CONSULTING ENGINEERS, AUGUST 1995.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

LEGEND

--- PROPERTY BOUNDARY

- x - x - x - x - x - EXISTING FENCE

--- STREAM / CREEK

--- BUSH / TREELINE

--- GUARD RAIL

--- EXISTING GROUND SURFACE
ELEVATION CONTOURS

--- EXISTING BUILDING/STRUCTURES

--- FORMER BUILDING/STRUCTURES

--- UTILITY POLE

SC-SS-06 ● SURFACE SOIL SAMPLE LOCATION

SB-15 ◆ SOIL BORING LOCATION (KEY-1998)

TSS-1 # TANK AREA SURFACE SOIL SAMPLE
LOCATION (WESTON-1990)

001 # SURFACE SOIL SAMPLE LOCATION
(FRENCH AND PARRELLO-1991)

MW-11L ⚡ SAND UNIT MONITORING WELL LOCATION
(WESTON-1990; KEY-1998)

0 200 400
FEET

COOPERATING PARTIES GROUP

DRWN: SCC
CHKD: RJH
APPD: JSZ
SCALE: AS SHOWN

DATE: 11/14/12
DATE: 11/14/12
DATE: 11/14/12

KEY ENVIRONMENTAL
INCORPORATED

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SURFACE SOIL
ANALYTICAL RESULTS (1990-2009)

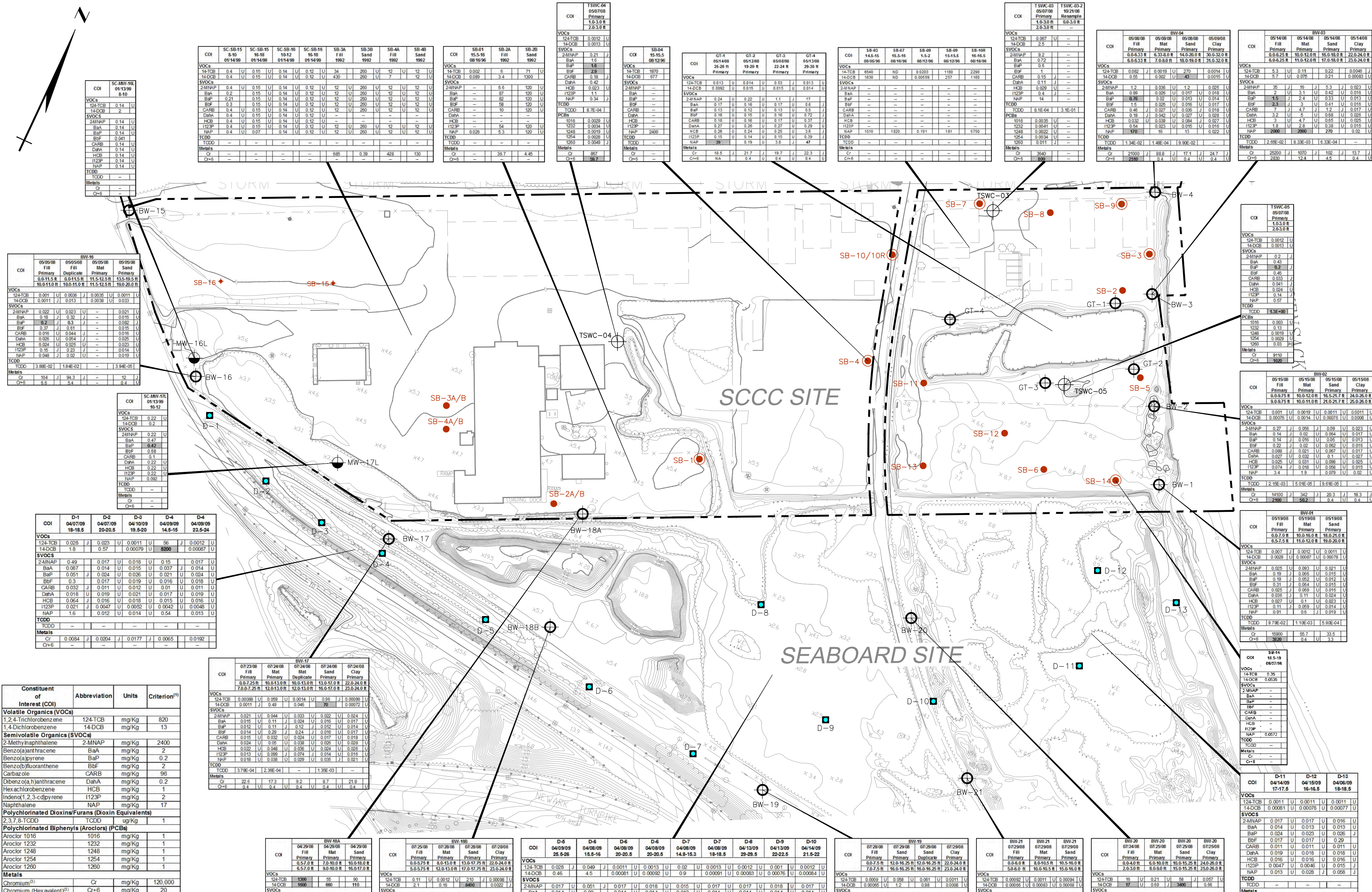
PROJECT NO: 2012-14
FIGURE 4-1

NOTES:

ALL SAMPLE LOCATIONS IN THE EASTERN PORTION OF THE SITE ARE BELOW COVER MATERIALS PLACED DURING IMPLEMENTATION OF THE IRA.

HISTORICAL SAMPLE LOCATIONS BASED ON PREVIOUS REPORTS BY OTHERS. MANY HISTORICAL SAMPLE LOCATIONS NOT SURVEYED. TSS-7 LOCATION NOT DEPICTED IN SOURCE DOCUMENT AND LOCATION CANNOT BE SHOWN.

v:\0cc\kern\site characterization summary report\figure 4-2 sub-surface soil analytical results.dwg, Last Saved By: Scorer, 12/7/2012, 12:20 PM Plotted By: Shelly, Corner, 12/7/2012, 2:52 PM Scale: 1:0.5



LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDING/STRUCTURES
- FORMER BUILDING/STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- BARRIER WALL ALIGNMENT
- SOIL BORING LOCATION (STABILITY/SETTLEMENT ANALYSIS)
- SOIL BORING LOCATION (SAMPLE COLLECTED) (ERM-1996)
- SOIL BORING LOCATION (VISUAL/FIELD SCREENING) (ERM-1996)
- SOIL BORING LOCATION (WESTON-1992)
- SOIL BORING LOCATION (KEY-1998)
- DNAPL DELINEATION BORING

0 200 400 FEET

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12	KEY ENVIRONMENTAL INCORPORATED
CHKD: RJH	DATE: 11/14/12	
APPD: JSZ	DATE: 11/14/12	
SCALE: AS SHOWN		

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SUBSURFACE SOIL ANALYTICAL RESULTS (1992-2009)

PROJECT NO: 2012-14
FIGURE 4-2

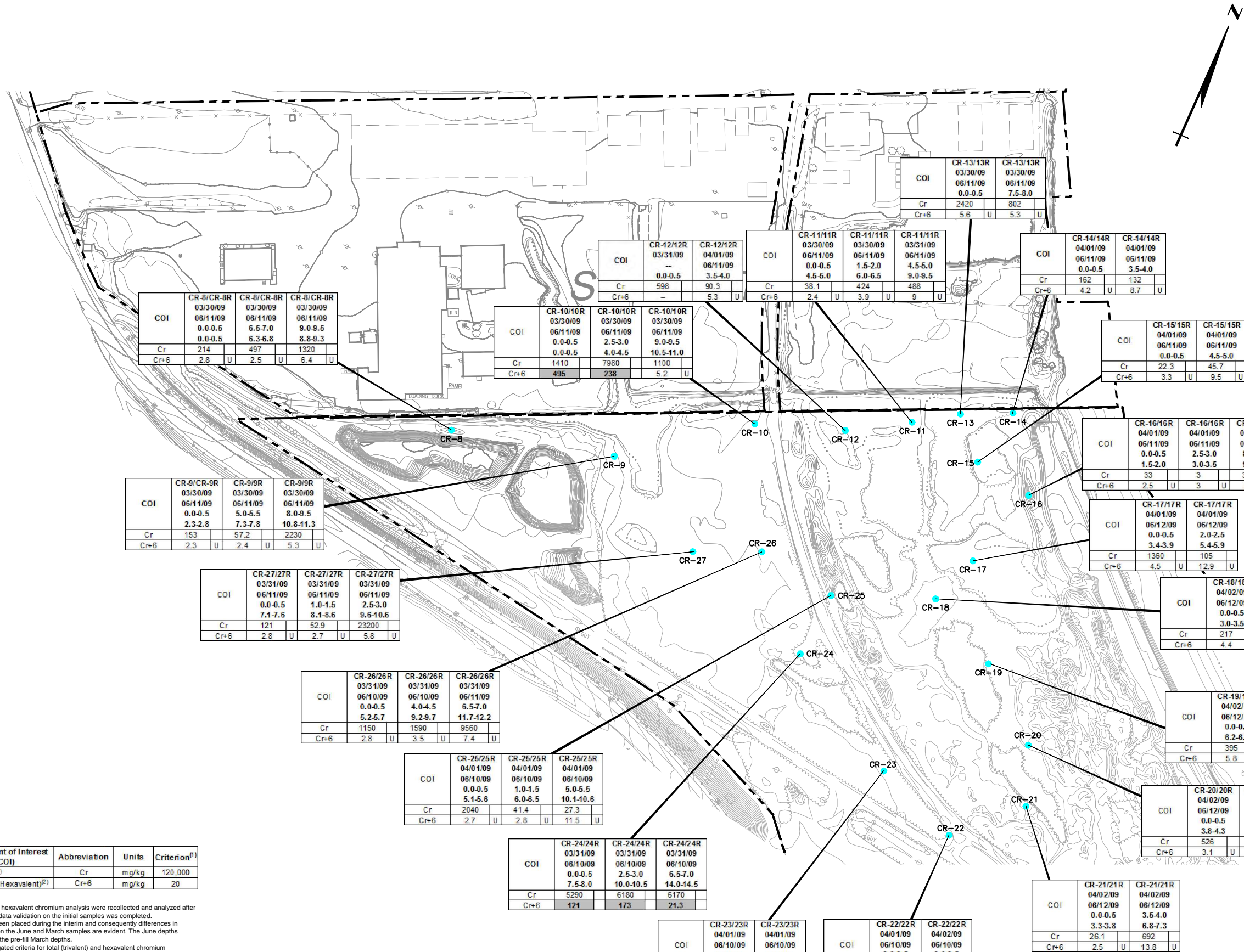
NOTES:
1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/reg/sr/sr_appendix1.pdf) unless noted otherwise.
2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
3. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance). Criterion for residential exposure to trivalent chromium was used for total chromium.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
U - Not detected at the detection limit indicated.
P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.

REFERENCE:

REV #	DATE	DESCRIPTION	APPD
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LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- STREAM / CREEK
- BUSH / TREELINE
- GUARD RAIL
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING BUILDING / STRUCTURES
- FORMER BUILDING / STRUCTURES
- UTILITY POLE
- CHROMIUM DELINEATION BORING (3 SAMPLE DEPTHS)

0 200 400 FEET

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12
CHKD: RJH	DATE: 11/14/12
APPD: JSZ	DATE: 11/14/12
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SURFACE AND SUBSURFACE SOIL
CHROMIUM RESULTS
SEABOARD PROPERTY (2009)

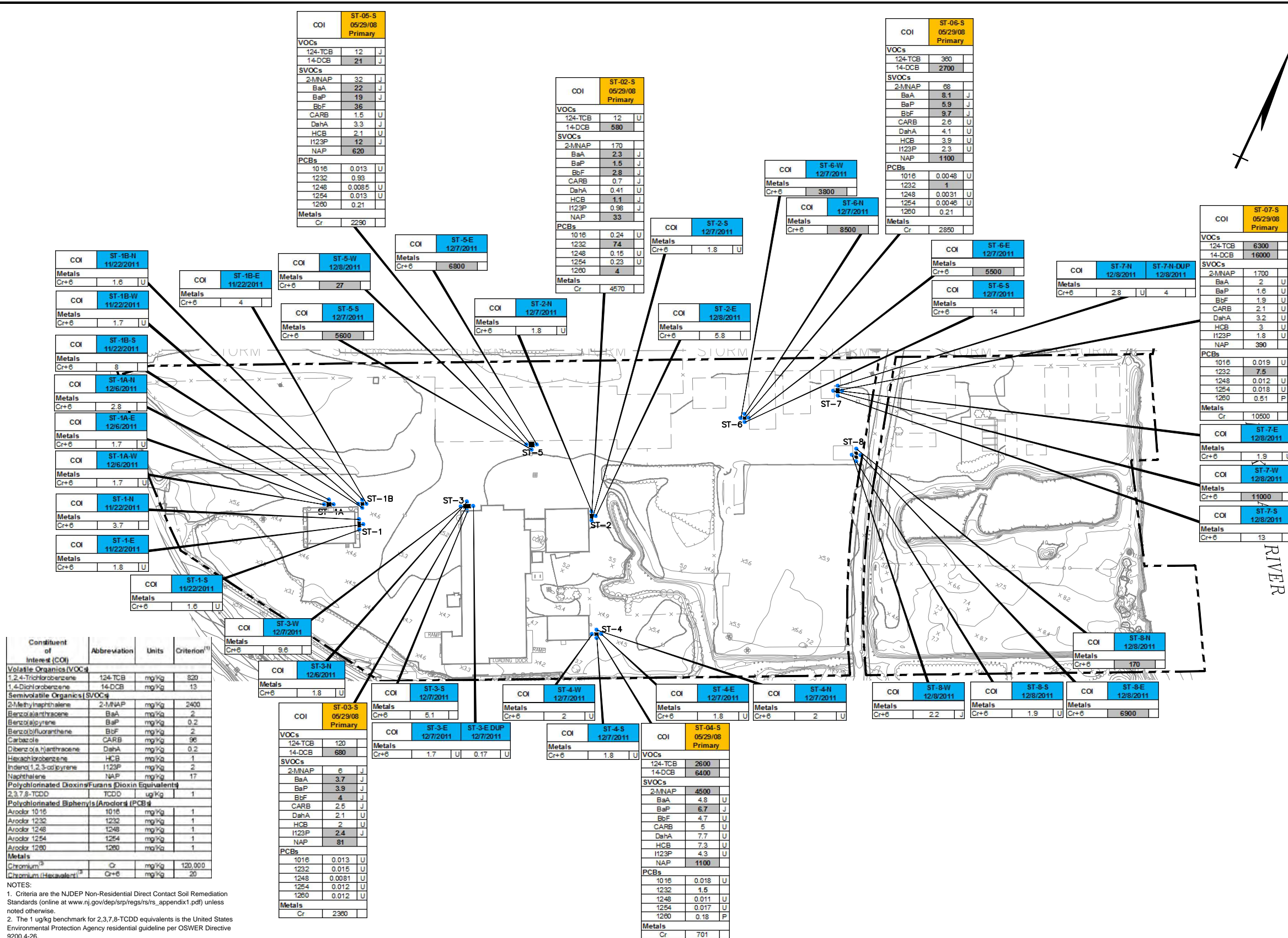
PROJECT NO: 2012-14
FIGURE 4-3

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD

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LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDING/STRUCTURES
- FORMER BUILDING/STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- SEPTIC TANK LOCATION
- SOIL BORINGS
- SEPTIC TANK CONFIRMATION SOIL BORING SAMPLE
- SEPTIC TANK SOLIDS CONTENTS SAMPLE

Constituent of Interest (COI)	Abbreviation	Units	Criterion ⁽¹⁾
Volatile Organics (VOCs)			
1,2,4-Trichlorobenzene	124-TCB	mg/kg	820
1,4-Dichlorobenzene	14-DCB	mg/kg	13
Semivolatile Organics (SVOCs)			
2-Methylnaphthalene	2-MNAP	mg/kg	2400
Benzo[a]anthracene	BaA	mg/kg	2
Benzo[a]pyrene	BaP	mg/kg	0.2
Benzo[b]fluoranthene	BbF	mg/kg	2
Carbazole	CARB	mg/kg	96
Dibenz[a,h]anthracene	DahA	mg/kg	0.2
Hexachlorobenzene	HCB	mg/kg	1
Indeno[1,2,3-cd]pyrene	I123P	mg/kg	2
Naphthalene	NAP	mg/kg	17
Polychlorinated Dioxins/Furans (Dioxin Equivalents)			
2,3,7,8-TCDD	TCDD	ug/kg	1
Polychlorinated Biphenyls (Aroclors) (PCBs)			
Aroclor 1016	1016	mg/kg	1
Aroclor 1232	1232	mg/kg	1
Aroclor 1248	1248	mg/kg	1
Aroclor 1254	1254	mg/kg	1
Aroclor 1260	1260	mg/kg	1
Metals			
Chromium ⁽³⁾	Cr	mg/kg	120,000
Chromium (Hexavalent) ⁽⁶⁾	Cr+6	mg/kg	20

- NOTES:
- Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
 - The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
 - Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance). Criterion for residential exposure to trivalent chromium was used for total chromium.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- U - Not detected at the detection limit indicated.
- P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12
CHKD: RJH	DATE: 11/14/12
APPD: JSZ	DATE: 11/14/12
SCALE: AS SHOWN	

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SEPTIC TANK SOLIDS AND
ADJACENT BORING
ANALYTICAL RESULTS (2008-2011)

PROJECT NO: 2012-14
FIGURE 4-4

y:\000\keyenv\site characterization summary report\Figure 4-5 shallow groundwater analytical.dwg Last Saved By: Scomer 12/7/2012 11:59 AM Plotted By: Shelly Comer 12/7/2012 12:30 PM Scale: 1:1

COI	SC-PZ-1U 04/23/08 Primary	
VOCs		
1,2,4-TCB	0.42	U
1,2-DCB	0.65	U
1,3-DCB	0.66	U
1,4-DCB	0.6	U
BNZ	0.81	U
CB	0.71	U
SVOCs		
2,4,6-TCP	0.71	U
2,4-DCP	0.61	U
2,4-DMP	0.65	U
2-CP	0.57	U
2-MNAP	0.59	U
B(a)A	0.51	U
B(a)P	0.55	U
B(b)F	0.39	U
B(k)F	0.49	U
HCB	0.54	U
I(1,2,3)P	0.59	U
NAP	0.54	U
PCP	1	U
PHL	0.28	U
Metals		
Cr	119	
PCBs		
1016	0.12	U
1248	0.11	U
1260	0.066	U

COI	SC-MW-12U 04/23/08 Primary	SC-MW-12U 04/23/08 Duplicate	
VOCs			
124-TCB	0.42	U	1.2
12-DCB	4	J	11
13-DCB	10		18
14-DCB	35		55
BNZ	0.81	U	0.91
CB	37		53
SVOCs			
246-TCP	0.65	U	0.62
24-DCP	1.4	J	1.1
24-DMP	12		29
2-CP	0.52	U	0.49
2-MNAP	0.69	J	14
BaA	0.47	U	0.45
BaP	0.5	U	0.48
BbF	0.36	U	0.34
BkF	0.45	U	0.43
HCB	0.5	U	0.47
I(123)P	0.54	U	0.52
NAP	6.2	J	310
PCP	0.95	U	0.9
PHL	5.1	J	36
Metals			
Cr	32.6		6.4
PCBs			
1016	0.11	U	0.11
1248	0.1	U	0.1
1260	0.062	U	0.061

COI	SC-PZ-3U 04/23/08 Primary	
VOCs		
124-TCB	0.42	U
12-DCB	4.5	J
13-DCB	0.66	U
14-DCB	1	J
BNZ	10	
CB	2.4	J
SVOCs		
246-TCP	0.62	U
24-DCP	0.53	U
24-DMP	12	
2-CP	0.49	U
2-MNAP	590	
BaA	0.45	U
BaP	0.48	U
BbF	0.34	U
BkF	0.43	U
HCB	0.47	U
I(123)P	0.52	U
NAP	5000	
PCP	0.9	U
PHL	5.8	J
Metals		
Cr	142	
PCBs		
1016	0.11	U
1248	0.099	U
1260	0.059	U

COI	SC-PZ-4U 04/25/08 Primary	
VOCs		
1,2,4-TCB	4.1	J
1,2-DCB	4.2	J
1,3-DCB	2.6	J
1,4-DCB	4.4	J
BNZ	0.81	U
CB	17	
SVOCs		
2,4,6-TCP	0.65	U
2,4-DCP	0.56	U
2,4-DMP	9.8	J
2-CP	0.52	U
2-MNAP	1.4	J
B(a)A	2.3	J
B(a)P	2.2	J
B(b)F	3.8	J
B(k)F	0.45	U
HCB	0.5	U
I(1,2,3)P	1.7	J
NAP	21	
PCP	0.95	U
PHL	29	
Metals		
Cr	3650	
PCBs		
1016	0.1	U
1248	0.095	U
1260	0.056	U

COI	SC-MW-11U 04/24/08 Primary	
VOCs		
124-TCB	5000	
12-DCB	5200	
13-DCB	1100	
14-DCB	1800	
BNZ	36	J
CB	450	
SVOCs		
246-TCP	11	
24-DCP	46	
24-DMP	99	
2-CP	0.5	U
2-MNAP	260	
BaA	1.6	J
BaP	0.72	J
BbF	1.1	J
BkF	0.53	J
HCB	0.48	U
I(123)P	0.52	U
NAP	14000	
PCP	10	J
PHL	49	
Metals		
Cr	396	
PCBs		
1016	1.3	
1248	0.094	U
1260	0.056	U

COI	SC-MW-14U 04/24/08 Primary	
VOCs		
124-TCB	230	J
12-DCB	7200	
13-DCB	5600	
14-DCB	9000	
BNZ	41	U
CB	490	
SVOCs		
246-TCP	0.63	U
24-DCP	0.54	U
24-DMP	7.8	J
2-CP	0.5	U
2-MNAP	3.6	J
BaA	0.46	U
BaP	0.49	U
BbF	0.35	U
BkF	0.44	U
HCB	0.48	U
I(123)P	0.53	U
NAP	740	
PCP	0.92	U
PHL	5.1	J
Metals		
Cr	427	
PCBs		
1016	0.1	U
1248	0.095	U
1260	0.056	U

COI	SC-MW-15U 04/23/08 Primary	
VOCs		
124-TCB	0.42	U
12-DCB	0.84	J
13-DCB	2.6	J
14-DCB	4.4	J
BNZ	85	
CB	320	
SVOCs		
246-TCP	0.6	U
24-DCP	0.51	U
24-DMP	6.9	J
2-CP	0.48	U
2-MNAP	0.49	U
BaA	0.43	U
BaP	0.46	U
BbF	0.33	U
BkF	0.41	U
HCB	0.46	U
I(123)P	0.5	U
NAP	0.45	U
PCP	0.87	U
PHL	39	
Metals		
Cr	3.1	B
PCBs		
1016	0.11	U
1248	0.098	U
1260	0.059	U

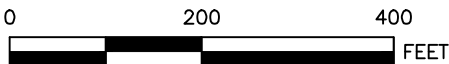
COI	SC-PZ-2U 04/23/08 Primary	
VOCs		
124-TCB	0.89	J
12-DCB	10	
13-DCB	3.4	J
14-DCB	3.2	J
BNZ	1.5	J
CB	10	
SVOCs		
246-TCP	0.6	U
24-DCP	0.51	U
24-DMP	3.3	J
2-CP	0.48	U
2-MNAP	1.2	J
BaA	0.44	U
BaP	0.46	U
BbF	0.33	U
BkF	0.42	U
HCB	0.46	U
I(123)P	0.5	U
NAP	2.1	J
PCP	0.88	U
PHL	6.9	J
Metals		
Cr	4690	
PCBs		
1016	0.11	U
1248	0.1	U
1260	0.06	U

COI	SC-PZ-5U 04/24/08 Primary	
VOCs		
124-TCB	11	
12-DCB	3.4	J
13-DCB	0.66	U
14-DCB	3.5	J
BNZ	15	
CB	25	
SVOCs		
246-TCP	0.69	U
24-DCP	0.59	U
24-DMP	13	
2-CP	0.55	U
2-MNAP	4.3	J
BaA	0.5	U
BaP	0.53	U
BbF	0.38	U
BkF	0.48	U
HCB	0.53	U
I(123)P	0.58	U
NAP	50	
PCP	1	U
PHL	870	
Metals		
Cr	2090	
PCBs		
1016	0.1	U
1248	0.094	U
1260	0.056	U

Constituent of Interest (COI)	Abbreviation	Units	Criterion ⁽¹⁾
Volatile Organics (VOCs)			
1,2,4-Trichlorobenzene	124-TCB	ug/L	9
1,2-Dichlorobenzene	12-DCB	ug/L	600
1,3-Dichlorobenzene	13-DCB	ug/L	600
1,4-Dichlorobenzene	14-DCB	ug/L	75
Benzene	BNZ	ug/L	1
Chlorobenzene	CB	ug/L	50
Semivolatile Organics (SVOCs)			
2,4,6-Trichlorophenol	246-TCP	ug/L	20
2,4-Dichlorophenol	24-DCP	ug/L	20
2,4-Dimethylphenol	24-DMP	ug/L	100
2-Chlorophenol	2-CP	ug/L	40
2-Methylanthracene ⁽²⁾	2-MNAP	ug/L	30
Benzo(a)anthracene	BaA	ug/L	0.1
Benzo(a)pyrene	BaP	ug/L	0.1
Benzo(b)fluoranthene	BbF	ug/L	0.2
Benzo(k)fluoranthene	BkF	ug/L	0.5
Hexachlorobenzene	HCB	ug/L	0.02
Indeno(1,2,3-cd)pyrene	I(123)P	ug/L	0.2
Naphthalene	NAP	ug/L	300
Pentachlorophenol	PCP	ug/L	0.3
Phenol	PHL	ug/L	2000
Metals			
Chromium (Total)	Cr	ug/L	70
PCBs			
Aroclor 1016	1016	ug/L	0.5
Aroclor 1248	1248	ug/L	0.5
Aroclor 1260	1260	ug/L	0.5

NOTES:
1. Specific Ground Water Quality Criteria - Class IIA - from Appendix Table 1 New Jersey Administrative Code 7:9C unless otherwise noted. Last amended July 7, 2008.
2. Interim Ground Water Quality Criteria as listed at www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
U - Not detected at the detection limit indicated.
J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.



COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12
CHKD: RJH	DATE: 11/14/12
APPD: JSZ	DATE: 11/14/12
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SHALLOW GROUNDWATER
ANALYTICAL RESULTS (2008)

PROJECT NO: 2012-14
FIGURE 4-5

LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDING/STRUCTURES
- FORMER BUILDING/STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- SHALLOW (FILL) UNIT GROUNDWATER MONITORING WELL LOCATION
- SHALLOW (FILL) UNIT PIEZOMETER LOCATION

REFERENCE:

NOTE:
GROUNDWATER ON THE SCCC SITE IS CURRENTLY CONFINED WITHIN THE LIMITS OF THE SLURRY/SHEET PILE WALLS.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD

y:\000\keyenv\site characterization summary report\Figure 4-6 deep groundwater analytical.dwg Last Saved By: Sonner, 12/7/2012 1:58 AM Plotted By: Shelly Comer, 12/7/2012 12:30 PM Scale: 1:1

COI	SC-MW-3L	04/24/08	Primary
VOCs			
1,2,4-TCB	1700		
1,2-DCB	29000		
1,3-DCB	20000		
1,4-DCB	32000		
BNZ	200	U	
CB	1700		
SVOCs			
2,4,6-TCP	1.2	J	
2,4-DMP	1000	J	
2,4-DMP	4.2	J	
2-CP	35		
2-MNAP	2	J	
B(a)A	0.45	U	
B(a)P	0.48	U	
B(b)F	0.34	U	
B(k)F	0.43	U	
HCB	0.47	U	
I(1,2,3)P	0.52	U	
NAP	57		
PCP	0.9	U	
PHL	6.5	J	
Metals			
Cr	171		
PCBs			
1016	0.1	U	
1248	0.093	U	
1260	0.055	U	

COI	SC-MW-15L	04/24/08	Primary
VOCs			
124-TCB	440	J	
12-DCB	36000		
13-DCB	26000		
14-DCB	42000		
BNZ	350	J	
CB	7800		
SVOCs			
246-TCP	0.6	U	
24-DCP	48		
24-DMP	3.9	J	
2-CP	0.48	U	
2-MNAP	0.89	J	
BaA	0.43	U	
BaP	0.46	U	
BbF	0.33	U	
BkF	0.41	U	
HCB	0.46	U	
I123P	0.5	U	
NAP	24		
PCP	0.87	U	
PHL	7.2	J	
Metals			
Cr	4.3	B	
PCBs			
1016	0.1	U	
1248	0.093	U	
1260	0.055	U	

COI	SC-MW-2L	04/24/08	Primary
VOCs			
1,2,4-TCB	840		
1,2-DCB	12000		
1,3-DCB	9700		
1,4-DCB	15000		
BNZ	81	U	
CB	730		
SVOCs			
2,4,6-TCP	0.6	U	
2,4-DCP	360		
2,4-DMP	6.7	J	
2-CP	18		
2-MNAP	0.73	J	
B(a)A	0.43	U	
B(a)P	0.46	U	
B(b)F	0.33	U	
B(k)F	0.41	U	
HCB	0.46	U	
I(1,2,3)P	0.5	U	
NAP	30		
PCP	0.87	U	
PHL	8.2	J	
Metals			
Cr	12100		
PCBs			
1016	0.1	U	
1248	0.093	U	
1260	0.055	U	

COI	SC-MW-12L	04/25/08	Primary
VOCs			
1,2,4-TCB	4200		
1,2-DCB	12000		
1,3-DCB	4600		
1,4-DCB	6200		
BNZ	280	J	
CB	770		
SVOCs			
2,4,6-TCP	0.62	U	
2,4-DCP	0.53	U	
2,4-DMP	2500		
2-CP	26		
2-MNAP	150	J	
B(a)A	0.45	U	
B(a)P	0.48	U	
B(b)F	0.34	U	
B(k)F	0.43	U	
HCB	43		
I(1,2,3)P	0.52	U	
NAP	2400		
PCP	0.9	U	
PHL	3700		
Metals			
Cr	57.4		
PCBs			
1016	4.5		
1248	0.095	U	
1260	1.4		

COI	SC-MW-13L	04/25/08	Primary
VOCs			
124-TCB	2400		
12-DCB	700		
13-DCB	160		
14-DCB	380		
BNZ	20	U	
CB	33	J	
SVOCs			
246-TCP	170		
24-DCP	2.6	U	
24-DMP	3100	J	
2-CP	2.5	U	
2-MNAP	790		
BaA	2.2	U	
BaP	2.4	U	
BbF	1.7	U	
BkF	2.1	U	
HCB	2.4	U	
I123P	2.6	U	
NAP	1700	J	
PCP	4.5	U	
PHL	19000		
Metals			
Cr	6930		
PCBs			
1016	7.5		
1248	0.93	U	
1260	0.55	U	

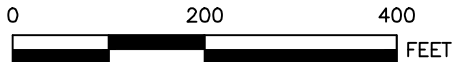
COI	SC-MW-8L	04/24/08	Primary
VOCs			
124-TCB	6700		
12-DCB	10000		
13-DCB	3700		
14-DCB	4900		
BNZ	270	J	
CB	1700		
SVOCs			
246-TCP	120		
24-DCP	450		
24-DMP	660		
2-CP	75		
2-MNAP	290		
BaA	0.99	J	
BaP	0.5	U	
BbF	1	J	
BkF	0.45	U	
HCB	7.8	J	
I123P	0.54	U	
NAP	5300		
PCP	0.95	U	
PHL	1500		
Metals			
Cr	281		
PCBs			
1016	78		
1248	58		
1260	14		

COI	SC-MW-14L	04/24/08	Primary
VOCs			
1,2,4-TCB	3400		
1,2-DCB	5300		
1,3-DCB	1900		
1,4-DCB	2400		
BNZ	150		
CB	920		
SVOCs			
2,4,6-TCP	0.61	U	
2,4-DCP	0.52	U	
2,4-DMP	28000		
2-CP	0.49	U	
2-MNAP	700	J	
B(a)A	0.44	U	
B(a)P	1.9	J	
B(b)F	0.34	U	
B(k)F	0.43	U	
HCB	0.47	U	
I(1,2,3)P	0.51	U	
NAP	9100	J	
PCP	0.9	U	
PHL	40000		
Metals			
Cr	132		
PCBs			
1016	1.2		
1248	0.61	PG	
1260	0.055	U	

Constituent of Interest (COI)	Abbreviation	Units	Criterion ⁽¹⁾
Volatile Organics (VOCs)			
1,2,4-Trichlorobenzene	124-TCB	ug/L	9
1,2-Dichlorobenzene	12-DCB	ug/L	600
1,3-Dichlorobenzene	13-DCB	ug/L	600
1,4-Dichlorobenzene	14-DCB	ug/L	75
Benzene	BNZ	ug/L	1
Chlorobenzene	CB	ug/L	50
Semivolatile Organics (SVOCs)			
2,4,6-Trichlorophenol	246-TCP	ug/L	20
2,4-Dichlorophenol	24-DCP	ug/L	20
2,4-Dimethylphenol	24-DMP	ug/L	100
2-Chlorophenol	2-CP	ug/L	40
2-Methylnaphthalene ⁽²⁾	2-MNAP	ug/L	30
Benzo(a)anthracene	BaA	ug/L	0.1
Benzo(a)pyrene	BaP	ug/L	0.1
Benzo(b)fluoranthene	BbF	ug/L	0.2
Benzo(k)fluoranthene	BkF	ug/L	0.5
Hexachlorobenzene	HCB	ug/L	0.02
Indeno(1,2,3-cd)pyrene	I123P	ug/L	0.2
Naphthalene	NAP	ug/L	300
Pentachlorophenol	PCP	ug/L	0.3
Phenol	PHL	ug/L	2000
Metals			
Chromium (Total)	Cr	ug/L	70
PCBs			
Aroclor 1016	1016	ug/L	0.5
Aroclor 1248	1248	ug/L	0.5
Aroclor 1260	1260	ug/L	0.5

NOTES:
1. Specific Ground Water Quality Criteria - Class IIA - from Appendix Table 1 New Jersey Administrative Code 7:9C unless otherwise noted. Last amended July 7, 2008.
2. Interim Ground Water Quality Criteria as listed at www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
J - Not detected at the detection limit indicated.
U - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.



COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12
CHKD: RJH	DATE: 11/14/12
APPD: JSZ	DATE: 11/14/12
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

SAND UNIT GROUNDWATER
ANALYTICAL RESULTS (2008)

PROJECT NO: 2012-14
FIGURE 4-6

HACKENSACK RIVER

SCCC SITE

LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDING/STRUCTURES
- FORMER BUILDING/STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- SAND UNIT GROUNDWATER MONITORING WELL LOCATION

REFERENCE:

NOTE:
GROUNDWATER ON THE SCCC SITE IS CURRENTLY CONFINED WITHIN THE LIMITS OF THE SLURRY/SHEET PILE WALLS.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD

COI	SC-MW-3L 04/30/08 Primary	
TCDD TEQ		
TCDD	1.5E+01	
TCDF		
14-DCB	520000	
BEN	110	J
CB	8800	
CRES	43	J
HCB	820	U
PCE	120	J
TCE	56	U
PCBS		
10s16	0.74	U
2348	0.47	U
1260	0.71	U
1268	0.64	U
RCRA		
IGNIT	151	

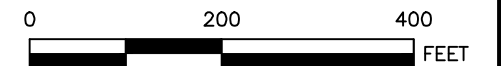
COI	SC-MW-13L 04/30/08 Primary	
TCDD TEQ		
TCDD	2.8E+04	
TCLP		
14-DCB	6300	J
BEN	52	U
CB	410	U
CRES	1400	U
HCB	12000	
PCE	220	J
TCE	58	J
PCBS		
101s	8600	
2348	6000	
1260	2100	
1268	600	J
RCRA		
IGNIT	>200	


NOTES:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/spg/rs/rs/rs_appendix1.pdf) unless noted otherwise.
2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.

NOTE:
DNAPL IS CURRENTLY BEING COLLECTED VIA RECOVERY WELLS IN THESE AREAS.

LEGEND



DRWN: SCC	DATE: 11/14/12	
CHKD: RJH	DATE: 11/14/12	
APPD: JSZ	DATE: 11/14/12	
SCALE: AS SHOWN		

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

PROJECT NO: 2012-14
FIGURE 4-7

△			
△			
△			
△			
REV #	DATE	DESCRIPTION	APPD

REFERENCE:

y:\000\keyenv\site characterization summary report\Figure 4-8 lagoon solids and liquids analytical results.dwg Last Saved By: Scorer, 12/7/2012 12:26 PM Plotted By: Shelly Comer 12/7/2012 12:27 PM Scale: 1:1

Surface Water Constituent of Interest	Abbreviation	Units	Discharge Limits NJDEP BGR Permit ⁽¹⁾	
			Monthly Average	Daily Maximum
Volatile Organics (VOCs)				
1,2,4-Trichlorobenzene	124-TCB	ug/L	68	140
1,4-Dichlorobenzene	14-DCB	ug/L	—	28
Semivolatile Organics (SVOCs)				
2,4-Dimethylphenol	24-DMP	ug/L	18	36
2-Methylnaphthalene	2-MNAP	ug/L	—	—
4-Methylphenol	4-MP	ug/L	—	—
Naphthalene	NAP	ug/L	—	—
Phenol	PHNL	ug/L	15	26
Polychlorinated Biphenyls (Aroclors) (PCBs)				
Aroclor 1232	1232	ug/L	—	0.05
Aroclor 1248	1248	ug/L	—	0.05
Aroclor 1260	1260	ug/L	—	0.05
Metals				
Chromium	Cr	ug/L	50	100
Chromium (Hexavalent)	Cr+6	ug/L	—	—

1. Criteria are as specified in the NJDEP Statewide Final NJPDES General Remediation Clean-up Permit (GRC) dated April 21, 2005. NJPDES Permit No. NJ0155438 Part III.

Potential exceedances of discharge limits are highlighted. Results which exceed both the monthly average and daily maximum are shown in bold, shaded typeface. Results which exceed the monthly average but not the daily maximum are shown in shaded typeface. Results which exceed the daily maximum but not the monthly average (i.e., when a daily maximum limit does not exist) are shown in bold typeface.

Data qualifiers are as follows:
J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
U - Not detected at the detection limit indicated.
-- - Not analyzed or criteria unavailable.

Soil Constituent of Interest	Abbreviation	Units	Criterion ⁽¹⁾
Volatile Organics			
1,2,4-Trichlorobenzene	124-TCB	mg/Kg	820
1,4-Dichlorobenzene	14-DCB	mg/Kg	13
Semivolatile Organics			
2,4-Dimethylphenol	24-DMP	mg/Kg	14000
2-Methylnaphthalene	2-MNAP	mg/Kg	2400
4-Methylphenol	4-MP	mg/Kg	340
Naphthalene	NAP	mg/Kg	17
Phenol	PHNL	mg/Kg	210000
Polychlorinated Dioxins/Furans			
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	TCDD	ug/Kg	1
Polychlorinated Biphenyls (Aroclors)			
Aroclor 1232	1232	mg/Kg	1
Aroclor 1248	1248	mg/Kg	1
Aroclor 1260	1260	mg/Kg	1
Metals			
Chromium ⁽³⁾	Cr	mg/Kg	120,000
Chromium (Hexavalent) ⁽³⁾	Cr+6	mg/Kg	20

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/reg/srns/appendix1.pdf) unless noted otherwise.
2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
3. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance). Criterion for residential exposure to trivalent chromium was used for total chromium.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
U - Not detected at the detection limit indicated.
-- - Not analyzed or criteria unavailable.

COI	WLWC-01 05/27/08 Primary 0.0-4.0 ft 3.0-4.0 ft	COI	ELWC-06 05/28/08 Primary 0.0-3.2 ft 3.0-4.0 ft	ELWC-06 05/28/08 Duplicate 0.0-4.0 ft 3.0-4.0 ft	COI	ELWC-05 05/28/08 Primary 0.0-4.0 ft 3.0-4.0 ft	COI	ELWC-04 05/28/08 Primary 0.0-4.0 ft 1.0-2.0 ft	COI	ELWC-03 05/28/08 Primary 0.0-4.0 ft 3.0-4.0 ft	COI	ELWC-02 05/28/08 Primary 0.0-4.0 ft 1.0-2.0 ft
VOCs												
124-TCB	23	124-TCB	3400	2600	124-TCB	3300	124-TCB	35	124-TCB	130	124-TCB	20
14-DCB	190	14-DCB	120	110	14-DCB	2100	14-DCB	4	14-DCB	54	14-DCB	11
SVOCs												
24-DMP	1900	24-DMP	17000	1700	24-DMP	17000	24-DMP	17000	24-DMP	17000	24-DMP	17000
2-MNAP	12000	2-MNAP	21000	3700	2-MNAP	21000	2-MNAP	24000	2-MNAP	21000	2-MNAP	21000
4-MP	1400	4-MP	45000	4500	4-MP	45000	4-MP	45000	4-MP	45000	4-MP	45000
NAP	210000	NAP	240000	250000	NAP	400000	NAP	770000	NAP	600000	NAP	430000
PHNL	440	PHNL	22000	2200	PHNL	22000	PHNL	22000	PHNL	22000	PHNL	22000
TCDD TEQ												
TCDD	1.8E+01	TCDD	1.2E+03	2.6E+03	TCDD	2.5E+03	TCDD	7.0E-01	TCDD	1.0E+01	TCDD	1.3E-01
PCBs												
1232	1.7	1232	6200	3100	1232	2300	1232	200	1232	0.086	1232	0.086
1248	0.95	1248	1300	780	1248	650	1248	46	1248	0.047	1248	0.047
1260	3.4	1260	7.1	3.6	1260	14	1260	0.71	1260	0.071	1260	0.071
Metals												
Cr	60.9	Cr	428	355	Cr	122	Cr	8.1	Cr	51.9	Cr	51.5
Cr+6	65.4	Cr+6	129	126	Cr+6	45.8	Cr+6	0.4	Cr+6	8	Cr+6	14.9

COI	WLWC-03 05/27/08 Primary 0.0-4.0 ft 1.0-2.0 ft
VOCs	
124-TCB	0.62
14-DCB	4.8
SVOCs	
24-DMP	410
2-MNAP	30000
4-MP	280
NAP	330000
PHNL	110
Dioxins	
TCDD	2.2E+02
PCBs	
1232	0.086
1248	0.047
1260	0.071
Metals	
Cr	496
Cr+6	12.1

COI	WLWC-04 05/27/08 Primary 0.0-4.0 ft 3.0-4.0 ft
VOCs	
124-TCB	29
14-DCB	240
SVOCs	
24-DMP	570
2-MNAP	15000
4-MP	1400
NAP	180000
PHNL	570
TCDD TEQ	
TCDD	9.8E+01
PCBs	
1232	0.086
1248	0.047
1260	0.071
Metals	
Cr	36.8
Cr+6	15.9

COI	WLWS-01 04/25/08 West Lagoon Primary
VOCs	
124-TCB	0.74
14-DCB	1.6
SVOCs	
24-DMP	5.1
2-MNAP	0.52
4-MP	14
NAP	8.4
PHNL	22
PCBs	
1232	0.12
1248	0.094
1260	0.056
Metals	
Cr	61
Cr+6	10

COI	WLWC-02 05/27/08 Primary 0.0-4.0 ft 3.0-4.0 ft
VOCs	
124-TCB	24
14-DCB	190
SVOCs	
24-DMP	710
2-MNAP	21000
4-MP	1300
NAP	400000
PHNL	640
TCDD TEQ	
TCDD	4.5E+01
PCBs	
1232	1.7
1248	0.95
1260	2.5
Metals	
Cr	3220
Cr+6	564

COI	WLWS-02 04/25/08 West Lagoon Primary
VOCs	
124-TCB	1.4
14-DCB	11
SVOCs	
24-DMP	8
2-MNAP	0.55
4-MP	18
NAP	7.3
PHNL	20
PCBs	
1232	0.12
1248	0.095
1260	0.056
Metals	
Cr	61.2
Cr+6	10

COI	ELWS-02 04/25/08 East Lagoon Primary	ELWS-02D 04/25/08 East Lagoon Duplicate
VOCs		
124-TCB	13	12
14-DCB	44	45
SVOCs		
24-DMP	24	19
2-MNAP	0.52	0.51
4-MP	50	47
NAP	2.3	2
PHNL	24	21
PCBs		
1232	0.12	0.12
1248	0.095	0.093
1260	0.056	0.055
Metals		
Cr	115	118
Cr+6	10	10

COI	ELWS-01 04/25/08 East Lagoon Primary
VOCs	
124-TCB	5.3
14-DCB	12
SVOCs	
24-DMP	0.55
2-MNAP	0.63
4-MP	27
NAP	6.6
PHNL	24
PCBs	
1232	0.12
1248	0.095
1260	0.056
Metals	
Cr	118
Cr+6	10
COI	ELWC-01 05/28/08 Primary 0.0-4.0 ft 1.0-2.0 ft
VOCs	
124-TCB	5.7
14-DCB	3.4
SVOCs	
24-DMP	17000
2-MNAP	21000
4-MP	45000
NAP	260000
PHNL	22000
TCDD TEQ	
TCDD	4.7E+01
PCBs	
1232	70
1248	18
1260	0.71
Metals	
Cr	305
Cr+6	278

LEGEND

- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDING/STRUCTURES
- FORMER BUILDING/STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- LAGOON SOLIDS SAMPLE LOCATION
- LAGOON PONDED WATER SAMPLE LOCATION
- LAGOON PONDED WATER SAMPLE LOCATION
- LAGOON SOLIDS SAMPLE LOCATION

0 200 400 FEET

COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/14/12	KEY ENVIRONMENTAL INCORPORATED
CHKD: RJH	DATE: 11/14/12	
APPD: JSZ	DATE: 11/14/12	
SCALE: AS SHOWN		

SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

LAGOON SOLIDS AND LIQUIDS
ANALYTICAL RESULTS (2008)

PROJECT NO: 2012-14
FIGURE 4-8

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE:

y:\000\keyenv\site characterization summary report\Figure 4-10 near-shore hackensack river sediment.dwg Last Saved By: Shelly Comer 12/7/2012 12:29 PM Scale: 1:1

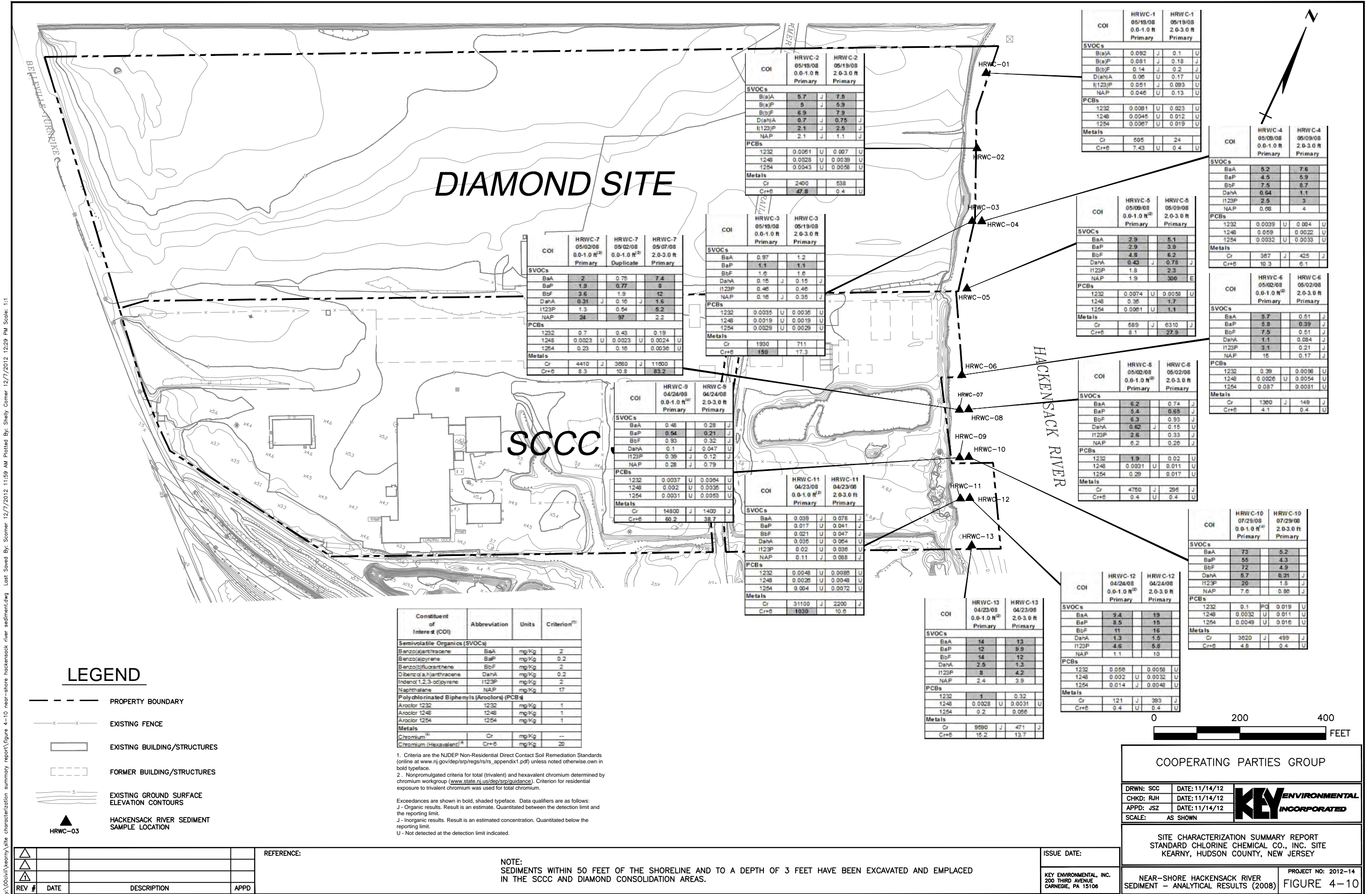
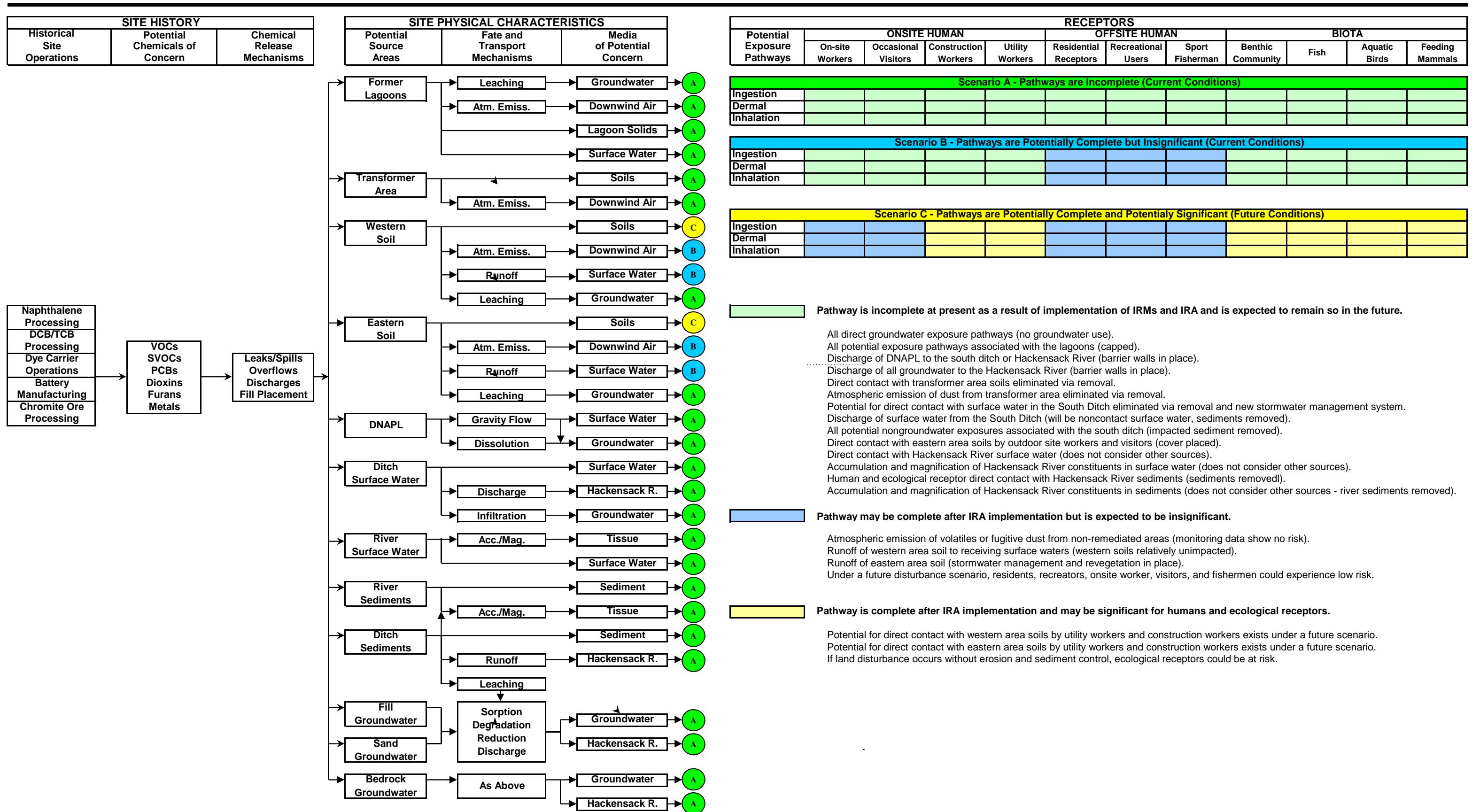


FIGURE 5-1
PRELIMINARY CONCEPTUAL SITE MODEL
SCCC SITE - KEARNY, NEW JERSEY



TABLES

Table 2-1
SITE CHRONOLOGY
1983-1989

1983	1984	1985	1986	1987	1988	1989
	Hydrogeologic Investigation		Dioxin Investigation			
		Phase II Dioxin Investigation (NJDEP)	Stage I Dioxin Work Plan		Stage II and III Dioxin Sampling and Analysis Report	
		Plan for Sampling of Soils		Stage I Dioxin Sampling		October 20 1989 Administrative Consent Order
				Stage I Dioxin Sampling and Analysis Report		

Table 2-1 SITE CHRONOLOGY 1989-1997

1989	1990	1991	1992	1993	1994	1995	1996	1997
	Remedial Investigation (RI)					Focused Remedial Investigation (FRI)		
Draft IRM Work Plan		SCC Phase I RI and IRMs						Proposed Remedial Action Work Plan (PRAP) for Easternmost Portion of Site, with FRI Report attached
	Draft RI Workplan	OCC ACO Chromium IRMs			NJDEP Review of RI Report			
	Final IRM Workplan (SCCC)	Surface Water, Sediment and Goundwater Sampling						
	RI Workplan	Analytical Results		Remedial Investigation (RI) Phase II				NJDEP conditionally approves PRAP (capping and containment of the lagoon and contaminated soil and ground water via a barrier wall approved conditionally) passive DNAPL recovery not accepted
	Addendum to RI Workplan	Soil Sampling and Groundwater Sampling	RI Phase II Work Plan	Draft RI Report		FRI Work Plan		
	Chromium Contamination Work Plan (SCC)	Draft Supplemental Work Plan for RI (Draft RI Phase II Work Plan)				By letter dated 8/11/95, NJDEP recommends construction of a subsurface barrier or slurry wall to prevent migration of contaminated ground water to the Hackensack		
	Draft IRM Work Plan (OCC)	SCC IRMs Implemented				IRM: Work Plan Closure of Old Production Well		ITEX submits: "Whitepaper: Brownfield Redevelopment Using Processed Dredged Material SCCC and SNPC Site, Kearny, New Jersey
	SCC IRMs Implemented							Scoping Letter for Supplemental Investigation
		OCC Chromium IRMs Implemented						Revised SRI Work Plan

Table 2-1
SITE CHRONOLOGY
1998-2003

1998	1999	2000	2001	2002	2003
Supplemental Remedial Investigation (SRI)		Additional Soil and Sediment Sampling and Analysis	Additional sampling containerized materials	Additional surface water and sediment sampling (USEPA)	Sampling Report (USEPA)
	Old production well sampled and closed	Baseline Ecological Evaluation	Sediment Sampling Hackensack River		ASTDR Public Health Assessment Initiated
	Additional SRI Sampling				
	Supplemental RI Report	Work Plan for Characterization of Containerized Materials	Revised RAWP design and implementation schedule		Draft IRM Work Plan (May IRM WP)
	Supplemental RI Report conditionally approved. Acquisition of additional field data must not delay preparation of the RASR and RAWP	Containerized Materials inventoried, repacked, characterized and placed in secure onsite storage	Addendum to November 2000 RAWP (May 2001 RAWP)		Revised IRM Work Plan (July IRM WP)
	Conceptual Remedial Action Work Plan	DGW IRM: Influent and effluent lines from sanitary holding tanks sealed and NJPDES DSW permit inactivated	RI Work Plan for SCC Site (OCC)		Peninsula Restoration Group formed
	NJDEP issues comments on Conceptual RAWP - references need for "installation of the required hydraulic barrier along the perimeter of the site" ... "to prevent further releases of DNAPL to the Hackensack River and sediments"	Remedial Action Work Plan (November 2000 RAW)			
		Northern Outfall IRM Work Plan			
		Onyx Environmental Services provides notification that there are no available disposal options in the United States for organic-contaminated asbestos waste			

Table 2-1
SITE CHRONOLOGY
2003-2005

2003	2004	2005
ATSDR Public Health Assessment	Peninsula Restoration Group Activities, Submissions	
	Interim Response Action Workplan	Asbestos Removal from Non-Process Buildings
	Asbestos/Lead Paint Survey	RCRA Characterization of Demolition Debris
	Wetlands Delineation	Groundwater Model
	Phase I Demolition Work Plan	
	Pre-Design Investigation Workplan	
	Aerial Topographic Survey	
	Solidification Treatability Study Workplan	

Table 2-1
SITE CHRONOLOGY
2006-2009

2006	2007	2008	2009
REGULATORY ACTIVITIES			
NJDEP Comments 2004 IRAW	Site Listed on NPL	IRAW Approval	
NJDEP/EPA Comments AOC Request	NJDEP Comments 2006 IRAW	Waste Classification Letter Received	
PRG ACTIVITIES			
Revised Draft IRAW	IRAW Addendum (Response to NJDEP Comments)	Draft Phase II Supplemental RI Work Plan	AOC Policy Submittal (Like vs. Like)
AOC Policy Request		Containerized Material SAP	
Vault Discovery and SAP		IRAW Pre-Design Sampling/Analysis	Target Materials Waste Classification Forms
Vault Sampling/Analysis		Groundwater Treatability Study	Containerized Material Waste Classification Forms
Vault Waste Classification Request		2nd Vault Waste Class. Request	
AOC Policy Comment Response		Removal/Disposal of Vault Contents	
		Eng. Eval./Cost Analysis Submitted	
		Final IRAW/Air Mon. Plan Submitted	
		Cont. Material Sampling/Analysis Final Phase II Suppl. Work Plan	
		South Ditch Probing Initiated	

Table 2-1

SITE CHRONOLOGY

2010-2012

2010

First Quarter

Response to IRAW Addendum Comments
Response to Like vs. Like Comments
Response to Phase I Cultural Survey Comments
Track 1 (Bldg 16, 19, and 20) Sampling/Analysis

Second Quarter

IRA Design Completed
Construction Procurement Completed
Revised IRAW Addendum Submitted/Approved
Revised IRAW Air Monitoring Plan Submitted
Well Abandonment Plan Submitted/Approved
Building 16, 19, 20 WC Requests Submitted
Cathodic Protection Plan Submitted
Track 2 (Bldg 15, 17, 18, 21) Sampling/Analysis
Track 1 & Track 2 RA Work Plans Submitted
Phase I Archeological Survey on Waterfront
HCTS Footprint Surcharge Placed

Third Quarter

Preconstruction Permitting Completed
Track 1 & Track 2 RA Work Plan Comment Response
Track 1 Demolition Procurement Completed
Construction QA Plan Completed
Track 1 & Track 2 Building Dioxin/Furan Analysis
Cathodic Protection Plan Comment Response
Construction Contractor Mobilization
HCTS Building Embankment Constructed

Fourth Quarter

Steel Sheet Pile Wall Installation Initiated
HCTS Building Foundation Construction
PSEG Gas Line Decommissioning
Building Sealing (Removal Action) Completed
Lagoon Solidification Study Completed
Outlet Works Constructed
Track 1 Building Demolition
TCTS Placed in Operation
Revised Air Monitoring Plan Submitted

2011

First Quarter

River Turbidity Curtain Installed
HCTS Building Shell Constructed
Transformer Pad Removal
HC Well Installation Completed
Consolidation Area Berm Constructed
Steel Sheet Pile Wall Construction
Western Lagoon Geogrid Installation
Track 1 Building Demolition Completed
Septic Tank Design Modification Letter
Wetland Mitigation Design Modification Letter
Lagoon Stabilization Design Modification Letter
Initial Receptor Evaluation Form Submitted

Second Quarter

Offsite Smelting of Track 1 Building Scrap
Two Phases of Transformer Pad Soil Removal
Steel Sheet Pile Wall Waler Installation
Eastern Lagoon Stabilization and Geogrid Placement
Track 1 Building Demolition Report
Track 3 RA Work Plan Submitted

Third Quarter

S. Ditch Solidification/Excavation/Consolidation
S. Ditch Stormwater Piping/Catch Basins Placed
GW Conveyance Piping and Conduit Installed
River Sediment Excavation/Consolidation
Additional Transformer Pad Soil Removal
Slurry Wall Installation Complete

Fourth Quarter

Capillary Break Installation
Well Pump and Vault Installation
HCTS Treatment Plant Completed
TCTS Treatment Plant Shutdown
Hydrostatic Testing of Stormwater System
Final Consolidation Area Grading and Cover
In-place Closure of Septic Tanks
HC Monitoring Piezometer Installation
Final Backfill/Closure of Transformer Pad
Mulching/Seeding & Wetland Restoration
Slurry Wall Crossing Construction

2012

First Quarter

Anode Well Installation
Track 2 Building Demolition Complete
Additional Capillary Break in Process Area
Track 2 Demolition Report Submitted

Second Quarter

HCTS Shakedown/Startup
Final Seeding Completed
TCTS Residual Disposal
Track 3 Building Demolition
Cathodic Protection Startup
Track 2 and 3 Building Demolition Reports

Third Quarter

Wetland Mitigation Construction Completion Report
HCTS Operation and Maintenance
Hydraulic Control Monitoring
DNAPL Recovery and Disposal

TABLE 4-1

ANALYTICAL RESULTS
SURFACE SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	SC-SS-01 0.0-0.5 ft 04/15/09		SC-SS-02 0.0-0.5 ft 04/15/09		SC-SS-03 0.0-0.5 ft 04/15/09		SC-SS-04 0.0-0.5 ft 04/15/09		SC-SS-05 0.0-0.5 ft 04/15/09		SC-SS-06 0.0-0.5 ft 04/15/09		SC-SS-07 0.0-0.5 ft 04/15/09		SC-SS-08 0.0-0.5 ft 03/31/09		SC-SS-09 0.0-0.5 ft 03/30/09		SC-SS-10 0.0-0.5 ft 03/30/09		SC-SS-11 0.0-0.5 ft 03/30/09	
Semivolatile Organic Compounds																								
1,1'-Biphenyl	mg/Kg	34000	0.097	U	0.4	J	0.021	U	0.17	J	0.058	J	0.099	J	0.056	U	0.056	J	0.033	U	0.046	J	0.09	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.093	U	0.19	U	0.02	U	0.094	U	0.035	U	0.087	U	0.054	U	0.046	U	0.032	U	0.018	U	0.086	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.052	U	0.11	U	0.011	U	0.053	U	0.02	U	0.049	U	0.03	U	0.026	U	0.018	U	0.01	U	0.049	U
2,4,6-Trichlorophenol	mg/Kg	74	0.11	U	0.21	U	0.023	U	0.11	U	0.04	U	0.098	U	0.061	U	0.052	U	0.036	U	0.021	U	0.098	U
2,4-Dichlorophenol	mg/Kg	2100	0.086	U	0.17	U	0.019	U	0.088	U	0.032	U	0.08	U	0.05	U	0.043	U	0.03	U	0.017	U	0.08	U
2,4-Dimethylphenol	mg/Kg	14000	0.089	U	0.77	J	0.019	U	0.2	J	0.053	J	0.083	U	0.052	U	0.044	U	0.031	U	0.018	U	0.51	J
2,4-Dinitrophenol	mg/Kg	1400	0.68	U	1.4	U	0.15	U	0.69	U	0.26	U	0.64	U	0.4	U	0.34	U	0.23	U	0.13	U	0.63	U
2,4-Dinitrotoluene	mg/Kg	3	0.099	U	0.2	U	0.021	U	0.1	U	0.037	U	0.093	U	0.058	U	0.049	U	0.034	U	0.02	U	0.092	U
2,6-Dinitrotoluene	mg/Kg	3	0.11	U	0.22	U	0.023	U	0.11	U	0.041	U	0.1	U	0.063	U	0.054	U	0.037	U	0.021	U	0.1	U
2-Chloronaphthalene	mg/Kg	--	0.057	U	0.11	U	0.012	U	0.058	U	0.022	U	0.053	U	0.033	U	0.028	U	0.02	U	0.011	U	0.053	U
2-Chlorophenol	mg/Kg	2200	0.065	U	0.13	U	0.014	U	0.066	U	0.025	U	0.061	U	0.038	U	0.032	U	0.022	U	0.013	U	0.061	U
2-Methylnaphthalene	mg/Kg	2400	0.2	J	1.3		0.047	J	1.7		0.2		0.24	J	0.14	J	0.13	J	0.055	J	0.14		0.17	J
2-Methylphenol	mg/Kg	3400	0.078	U	0.16	U	0.017	U	0.08	U	0.03	U	0.073	U	0.046	U	0.039	U	0.027	U	0.015	U	1.3	J
2-Nitroaniline	mg/Kg	23000	0.13	U	0.26	U	0.028	U	0.13	U	0.049	U	0.12	U	0.076	U	0.065	U	0.045	U	0.026	U	0.12	U
2-Nitrophenol	mg/Kg	--	0.081	U	0.16	U	0.017	U	0.082	U	0.031	U	0.075	U	0.047	U	0.04	U	0.028	U	0.016	U	0.075	U
3,3-Dichlorobenzidine	mg/Kg	4	0.4	U	0.8	U	0.086	U	0.41	U	0.15	U	0.37	U	0.23	U	0.2	U	0.14	U	0.079	U	0.37	U
3-Nitroaniline	mg/Kg	--	0.069	U	0.14	U	0.015	U	0.071	U	0.026	U	0.065	U	0.04	U	0.034	U	0.024	U	0.014	U	0.065	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	2	U	4.1	U	0.44	U	2.1	U	0.77	U	1.9	U	1.2	U	1	U	0.7	U	0.4	U	1.9	U
4-Bromophenylphenyl ether	mg/Kg	--	0.09	U	0.18	U	0.019	U	0.092	U	0.034	U	0.084	U	0.052	U	0.045	U	0.031	U	0.018	U	0.084	U
4-Chloro-3-methylphenol	mg/Kg	--	0.063	U	0.13	U	0.014	U	0.064	U	0.024	U	0.059	U	0.037	U	0.031	U	0.022	U	0.013	U	0.059	U
4-Chloroaniline	mg/Kg	--	0.066	U	0.13	U	0.014	U	0.067	U	0.025	U	0.061	U	0.038	U	0.033	U	0.023	U	0.042	J	0.061	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.094	U	0.19	U	0.02	U	0.096	U	0.035	U	0.087	U	0.055	U	0.047	U	0.032	U	0.019	U	0.087	U
4-Methylphenol	mg/Kg	340	0.093	U	0.19	U	0.02	U	0.34	J	0.057	J	0.087	U	0.054	U	0.046	U	0.37	J	0.018	U	1.7	J
4-Nitroaniline	mg/Kg	--	0.1	U	0.21	U	0.022	U	0.11	U	0.039	U	0.097	U	0.06	U	0.052	U	0.036	U	0.021	U	0.097	U
4-Nitrophenol	mg/Kg	--	1.2	U	2.5	U	0.27	U	1.3	U	0.47	U	1.2	U	0.73	U	0.62	U	0.43	U	0.25	U	1.2	U
Acenaphthene	mg/Kg	37000	0.85		0.84	J	0.045	J	3		0.38		0.064	U	0.12	J	0.082	J	0.2		0.15		0.47	
Acenaphthylene	mg/Kg	300000	0.14	J	5.4		0.043	J	0.26	J	0.088	J	0.13	J	0.13	J	0.47		0.17		0.25		0.33	J
Acetophenone	mg/Kg	5	0.098	U	0.2	U	0.021	U	0.1	U	0.037	U	0.091	U	0.057	U	0.049	U	0.034	U	0.026	J	0.091	U
Anthracene	mg/Kg	30000	2		3.1		0.25		2.9		0.63		0.39	J	0.2	J	0.52		0.73		0.56		0.83	
Atrazine	mg/Kg	2400	0.1	U	0.2	U	0.022	U	0.1	U	0.038	U	0.094	U	0.058	U	0.05	U	0.035	U	0.02	U	0.094	U
Benzaldehyde	mg/Kg	68000	0.055	U	0.11	U	0.012	U	0.056	U	0.021	U	0.052	U	0.032	U	0.34	J	0.019	U	0.16	J	0.68	J
Benzo(a)anthracene	mg/Kg	2	14		4.5		0.17		22		3.4		0.063	U	0.95		2		2		1.1		4.7	
Benzo(a)pyrene	mg/Kg	0.2	22		5.2		0.17		37		5		0.81		0.95		2		1.5		1		7.5	
Benzo(b)fluoranthene	mg/Kg	2	27		10		0.42		47		7.6		4		2.8		2.6		1.7		1.2		7.6	
Benzo(ghi)perylene	mg/Kg	30000	17		6.4		0.21		34		4.7		1.6		1.3		1.4		0.92		0.71		6.1	
Benzo(k)fluoranthene	mg/Kg	23	0.088	U	0.18	U	0.019	U	0.09	U	0.033	U	0.082	U	0.051	U	1.1		0.71		0.44		2.5	
Bis(2-chloroethoxy)methane	mg/Kg	--	0.085	U	0.17	U	0.018	U	0.087	U	0.032	U	0.079	U	0.05	U	0.042	U	0.029	U	0.017	U	0.079	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.037	U	0.075	U	0.008	U	0.038	U	0.014	U	0.035	U	0.022	U	0.018	U	0.013	U	0.0074	U	0.035	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.18	U	0.36	U	0.26	J	0.18	U	0.068	U	1.6	J	0.91	J	0.17	J	1		0.86		0.63	J
Butyl benzyl phthalate	mg/Kg	14000	0.15	U	0.3	U	0.032	U	0.15	U	0.056	U	0.14	U	0.086	U	0.074	U	0.051	U	0.037	J	0.14	U
Caprolactam	mg/Kg	340000	0.28	U	0.56	U	0.06	U	0.28	U	0.1	U	0.26	U	0.16	U	0.14	U	0.095	U	0.055	U	0.26	U
Carbazole	mg/Kg	96	1.5		0.92		0.097		1.6		0.29		0.19	J	0.084	J	0.17	J	0.064	J	0.19		0.55	
Chrysene	mg/Kg	230	15		3.8		0.16		19		3.1		0.069	U	0.99		1.9		1.8		1.1		4.9	
Dibenzo(a,h)anthracene	mg/Kg	0.2	4.8		1.3		0.029	J	8.8		1.2		0.37	J	0.29		0.36		0.27		0.19		1.5	
Dibenzofuran	mg/Kg	--	0.26	J	1.2	J	0.064	J	1.2	J	0.22	J	0.25	J	0.11	J	0.16	J	0.075	J	0.17	J	0.24	J
Diethyl phthalate	mg/Kg	550000	0.12	U	0.24	U	0.026	U	0.12	U	0.045	U	0.11	U	0.077	J	0.06	U	0.041	U	0.026	J	0.11	U
Dimethyl phthalate	mg/Kg	--	0.071	U	0.14	U	0.015	U	0.073	U	0.027	U	0.067	U	0.042	U	0.035	U	0.025	U	0.014	U	0.066	U
Di-n-butyl phthalate	mg/Kg	68000	0.12	U	0.24	U	0.025	U	0.12	U	0.045	U	0.11	U	0.069	U	0.059	U	0.041	U	0.055	J	0.11	U
Di-n-octyl phthalate	mg/Kg	27000	0.055	U	0.11	U	0.012	U	0.056	U	0.021	U	0.051	U	0.032	U	0.027	U	0.019	U	0.017	J	0.051	U
Fluoranthene	mg/Kg	24000	17		5.7		0.36		22		4.2		2.1		1.3		3.3		3.8		2.4		6.4	
Fluorene	mg/Kg	24000	0.47		0.6	J	0.041	J	1.1		0.19		0.06	U	0.051	J	0.12	J	0.32		0.27		0.38	J

TABLE 4-1

ANALYTICAL RESULTS
SURFACE SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	SC-SS-01 0.0-0.5 ft 04/15/09		SC-SS-02 0.0-0.5 ft 04/15/09		SC-SS-03 0.0-0.5 ft 04/15/09		SC-SS-04 0.0-0.5 ft 04/15/09		SC-SS-05 0.0-0.5 ft 04/15/09		SC-SS-06 0.0-0.5 ft 04/15/09		SC-SS-07 0.0-0.5 ft 04/15/09		SC-SS-08 0.0-0.5 ft 03/31/09		SC-SS-09 0.0-0.5 ft 03/30/09		SC-SS-10 0.0-0.5 ft 03/30/09		SC-SS-11 0.0-0.5 ft 03/30/09	
Semivolatile Organic Compounds (Continued)																								
Hexachlorobenzene	mg/Kg	1	0.08	U	0.16	U	0.017	U	0.95		0.03	U	0.96		1.4		0.04	U	0.028	U	0.016	U	0.075	U
Hexachlorobutadiene	mg/Kg	25	0.09	U	0.18	U	0.019	U	0.092	U	0.034	U	0.084	U	0.052	U	0.045	U	0.031	U	0.018	U	0.084	U
Hexachlorocyclopentadiene	mg/Kg	110	0.081	U	0.16	U	0.017	U	0.082	U	0.03	U	0.075	U	0.047	U	0.04	U	0.028	U	0.016	U	0.075	U
Hexachloroethane	mg/Kg	140	0.072	U	0.14	U	0.015	U	0.073	U	0.027	U	0.067	U	0.042	U	0.036	U	0.025	U	0.014	U	0.067	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	15		6.6		0.31		27		3.9		1.9		1.4		1.2		0.75		0.55		4.9	
Isophorone	mg/Kg	2000	0.083	U	0.17	U	0.018	U	0.084	U	0.031	U	0.077	U	0.048	U	0.041	U	0.028	U	0.016	U	0.077	U
Naphthalene	mg/Kg	17	1.4		3.4		0.11		10		1.1		16		6.3		0.5		0.13	J	0.41		0.67	
Nitrobenzene	mg/Kg	340	0.11	U	0.21	U	0.023	U	0.11	U	0.04	U	0.1	U	0.062	U	0.053	U	0.037	U	0.021	U	0.099	U
N-Nitrosodiphenylamine	mg/Kg	390	0.087	U	0.17	U	0.019	U	0.089	U	0.033	U	0.081	U	0.051	U	0.043	U	0.03	U	0.017	U	0.081	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.12	U	0.24	U	0.025	U	0.12	U	0.044	U	0.11	U	0.068	U	0.058	U	0.041	U	0.023	U	0.11	U
Pentachlorophenol	mg/Kg	10	0.37	U	0.74	U	0.079	U	0.38	U	0.14	U	0.34	U	0.21	U	0.81	J	0.13	U	0.073	U	0.34	U
Phenanthrene	mg/Kg	300000	6.9		4.1		0.25		12		2		3		0.77		1.2		2.7		1.5		2.8	
Phenol	mg/Kg	210000	0.084	U	0.17	U	0.018	U	0.086	U	0.032	U	0.079	U	0.049	U	0.042	U	0.054	J	0.017	U	8.6	
Pyrene	mg/Kg	18000	15		4.2		0.29		26		4.3		1.9		1.2		2.6		3.7		1.8		5.3	
Polychlorinated Dioxins and Furans																								
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	--		--		--		--		--		--		--		0.92		0.03	Q	0.057		7.9	
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	--		--		--		--		--		--		--		0.1		0.032		0.012		0.25	
1,2,3,7,8,9-HxCDF	ug/Kg	--	--		--		--		--		--		--		--		0.00054	QJ	0.0055	U	0.0063	U	0.0035	QJ
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	--		--		--		--		--		--		--		0.023		0.00096	QJ	0.0017	J	0.29	
1,2,3,4,7,8-HxCDF	ug/Kg	--	--		--		--		--		--		--		--		0.24		0.0077		0.015		2.5	Q
1,2,3,4,7,8-HxCDD	ug/Kg	--	--		--		--		--		--		--		--		0.002	J	0.0002	QJ	0.0063	U	0.0053	J
1,2,3,6,7,8-HxCDF	ug/Kg	--	--		--		--		--		--		--		--		0.051	Q	0.0019	QJ	0.003	QJ	0.42	Q
1,2,3,6,7,8-HxCDD	ug/Kg	--	--		--		--		--		--		--		--		0.0055	J	0.0011	J	0.00073	QJ	0.022	
1,2,3,7,8,9-HxCDD	ug/Kg	--	--		--		--		--		--		--		--		0.0039	QJ	0.00071	J	0.00079	J	0.01	J
1,2,3,7,8-PeCDF	ug/Kg	--	--		--		--		--		--		--		--		0.0083		0.003	J	0.00063	QJ	0.037	
1,2,3,7,8-PeCDD	ug/Kg	--	--		--		--		--		--		--		--		0.0039	QJ	0.0055	U	0.0063	U	0.0064	QJ
2,3,4,6,7,8-HxCDF	ug/Kg	--	--		--		--		--		--		--		--		0.015		0.0011	J	0.00099	QJ	0.12	
2,3,4,7,8-TCDD	ug/Kg	--	--		--		--		--		--		--		--		0.023	Q	0.0032	QJ	0.0013	QJ	0.2	Q
2,3,7,8-TCDF	ug/Kg	--	--		--		--		--		--		--		--		0.023	Q	0.0092	Q	0.0013	Q	0.051	Q
2,3,7,8-TCDD	ug/Kg	--	--		--		--		--		--		--		--		0.00099	QJ	0.0011	U	0.0013	U	0.034	
OCDF	ug/Kg	--	--		--		--		--		--		--		--		1.6		0.039		0.08		11	
OCDD	ug/Kg	--	--		--		--		--		--		--		--		0.98	B	0.33	B	0.12	B	5.7	B
Total HpCDD	ug/Kg	--	--		--		--		--		--		--		--		0.22		0.062		0.027		0.55	
Total HpCDF	ug/Kg	--	--		--		--		--		--		--		--		1		0.04	Q	0.066		9	
Total HxCDD	ug/Kg	--	--		--		--		--		--		--		--		0.063	Q	0.0087	JO	0.0074	JO	0.16	Q
Total HxCDF	ug/Kg	--	--		--		--		--		--		--		--		0.61	Q	0.024	Q	0.04	Q	5.8	Q
Total PeCDD	ug/Kg	--	--		--		--		--		--		--		--		0.05	Q	0.00079	QJ	0.001	QJ	0.15	Q
Total PeCDF	ug/Kg	--	--		--		--		--		--		--		--		0.37	Q	0.022	JO	0.02	QJ	2.5	Q
Total TCDD	ug/Kg	--	--		--		--		--		--		--		--		0.035	Q	0.00051	QJ	0.0019	Q	0.15	Q
Total TCDF	ug/Kg	--	--		--		--		--		--		--		--		0.24	Q	0.03	Q	0.013	Q	1.4	Q
Polychlorinated Dioxins/Furans																								
1,2,3,4,6,7,8-HpCDD	0.01	--	--		--		--		--		--		--		--		9.2E-03		--		5.7E-04		7.9E-02	
1,2,3,4,6,7,8-HpCDF	0.01	--	--		--		--		--		--		--		--		1.0E-03		3.2E-04		1.2E-04		2.5E-03	
1,2,3,4,7,8,9-HpCDF	0.01	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,4,7,8-HxCDD	0.10	--	--		--		--		--		--		--		--		2.3E-03		--		1.7E-04		2.9E-02	
1,2,3,4,7,8-HxCDF	0.10	--	--		--		--		--		--		--		--		2.4E-02		7.7E-04		1.5E-03		--	
1,2,3,6,7,8-HxCDD	0.10	--	--		--		--		--		--		--		--		2.0E-04		--		--		5.3E-04	
1,2,3,6,7,8-HxCDF	0.10	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8,9-HxCDD	0.10	--	--		--		--		--		--		--		--		5.5E-04		1.1E-04		--		2.2E-03	
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		--		--		--		--		7.1E-05		7.9E-05		1.0E-03	
1,2,3,7,8-PCDD	1.00	--	--		--		--		--		--		--		--		8.3E-03		3.0E-03		--		3.7E-02	
1,2,3,7,8-PCDF	0.05	--	--		--		--		--		--		--		--		--		--		--		--	
2,3,4,6,7,8-HxCDF	0.10	--	--		--		--		--		--		--		--		1.5E-03		1.1E-04		--		1.2E-02	
2,3,4,7,8-PCDF	0.50	--	--		--		--		--		--		--		--		--		--		--		--	
2,3,7,8-TCDD	1.00	--	--		--		--		--		--		--		--		--		--		--		--	
2,3,7,8-TCDF	0.10	--	--		--		--		--		--		--		--		--		--		--		3.4E-03	
OCDD	0.0001	--	--		--		--		--		--		--		--		1.6E-04		3.9E-06		8.0E-06		1.1E-03	
OCDF	0.0001	--	--		--		--		--		--		--		--		9.8E-05		3.3E-05		1.2E-05		5.7E-04	
Total 2,3,7,8-TCDD Equivalents ⁽³⁾	ug/Kg	1	--		--		--		--		--		--		--		4.73E-02		4.42E-03		2.46E-03		1.68E-01	

TABLE 4-1

ANALYTICAL RESULTS
SURFACE SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	SC-SS-01 0.0-0.5 ft 04/15/09		SC-SS-02 0.0-0.5 ft 04/15/09		SC-SS-03 0.0-0.5 ft 04/15/09		SC-SS-04 0.0-0.5 ft 04/15/09		SC-SS-05 0.0-0.5 ft 04/15/09		SC-SS-06 0.0-0.5 ft 04/15/09		SC-SS-07 0.0-0.5 ft 04/15/09		SC-SS-08 0.0-0.5 ft 03/31/09		SC-SS-09 0.0-0.5 ft 03/30/09		SC-SS-10 0.0-0.5 ft 03/30/09		SC-SS-11 0.0-0.5 ft 03/30/09	
Polychlorinated Biphenyls																								
Aroclor 1016	mg/Kg	1	0.0031	U	0.0032	U	0.0034	U	0.0032	U	0.003	U	0.003	U	0.0031	U	0.0039	U	0.0027	U	0.0031	U	0.0074	U
Aroclor 1221	mg/Kg	1	0.004	U	0.0041	U	0.0043	U	0.0041	U	0.0038	U	0.0038	U	0.0039	U	0.005	U	0.0035	U	0.004	U	0.0095	U
Aroclor 1232	mg/Kg	1	0.0036	U	0.0036	U	0.0039	U	0.0037	U	0.0034	U	0.0034	U	0.0035	U	0.0045	U	0.0031	U	0.0035	U	0.0085	U
Aroclor 1242	mg/Kg	1	0.0034	U	0.0035	U	0.0037	U	0.0035	U	0.0033	U	0.0032	U	0.0033	U	0.0043	U	0.071		0.08		0.28	
Aroclor 1248	mg/Kg	1	0.31		1.1		0.1		2.5		0.0019	U	1.1		0.0019	U	0.0025	U	0.0017	U	0.002	U	0.0047	U
Aroclor 1254	mg/Kg	1	0.13		0.44		0.042	PG	1		0.068		0.32	PG	0.22	PG	0.13		0.067		0.16		0.3	
Aroclor 1260	mg/Kg	1	0.003	U	0.003	U	0.0032	U	0.0031	U	0.0028	U	0.0028	U	0.0029	U	0.15		0.037		0.1		0.2	
Aroclor 1262	mg/Kg	1	0.0046	U	0.0047	U	0.005	U	0.0047	U	0.0044	U	0.0043	U	0.0045	U	0.0058	U	0.004	U	0.0045	U	0.011	U
Aroclor 1268	mg/Kg	1	0.041	PG	0.17		0.0029	U	0.0028	U	0.0026	U	0.46		0.45		0.0034	U	0.0023	U	0.0027	U	0.0064	U
Miscellaneous																								
Percent Solids		--	78.7		78.4		73.1		76.1		83.3		83.1		81.2		63.4		91.4		79.6		33.5	

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
2. Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

U - Not detected at the reporting limit indicated.

B - Analyte detected in associated method blank

J - Result is an estimate. Quantitated between the detection limit and the reporting limit.

Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration.

TABLE 4-2
ANALYTICAL RESULTS
CHROMIUM BORINGS ⁽¹⁾
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent ⁽¹⁾	Units	Criterion ⁽²⁾	CR-8/CR-8R	CR-8/CR-8R	CR-8/CR-8R	CR-9/CR-9R	CR-9/9R	CR-9/9R	CR-10/10R	CR-10/10R	CR-10/10R	CR-11/11R	CR-11/11R	CR-11/11R												
			03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/30/09	03/31/09											
			06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09											
			0.0-0.5	6.5-7.0	9.0-9.5	0.0-0.5	5.0-5.5	8.0-9.5	0.0-0.5	2.5-3.0	9.0-9.5	0.0-0.5	1.5-2.0	4.5-5.0	4.5-5.0											
			0.0-0.5	6.3-6.8	8.8-9.3	2.3-2.8	7.3-7.8	10.8-11.3	1.5-2.0	4.0-4.5	10.5-11.0	4.5-5.0	6.0-6.5	9.0-9.5	9.0-9.5											
Chromium	mg/kg	120000	214		497		1320		153		57.2		2230		1410		7980		1100		38.1		424		488	
Chromium (Hexavalent)	mg/kg	20	2.8	U	2.5	U	6.4	U	2.3	U	2.4	U	5.3	U	495		238		5.2	U	2.4	U	3.9	U	9	U
Hydronium Ion (pH)	SU	--	7.35		8.39		6.39		7.81		7.96		6.18		9.09		9.22		8.03		7.76		7.25		5.11	
Oxidation Reduction Potential	mV	--	510		395		352		408		304		272		291		298		265		235		120		298	

Constituent	Units	Criterion ⁽²⁾	CR-12/12R	CR-12/12R	CR-13/13R	CR-13/13R	CR-14/14R	CR-14/14R	CR-15/15R	CR-15/15R	CR-16/16R	CR-16/16R	CR-16/16R	CR-17/17R	CR-17/17R													
			03/31/09	04/01/09	03/30/09	03/30/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09	04/01/09											
			--	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/11/09	06/12/09	06/12/09											
			0.0-0.5	3.5-4.0	0.0-0.5	7.5-8.0	0.0-0.5	3.5-4.0	0.0-0.5	4.5-5.0	0.0-0.5	2.5-3.0	8.5-9.0	0.0-0.5	2.0-2.5													
			--	3.5-4.0	3.5-4.0	11.0-11.5	5.6-6.0	9.0-9.5	1.4-1.9	5.9-6.4	1.5-2.0	3.0-3.5	9.0-9.5	3.4-3.9	5.4-5.9													
Chromium	mg/kg	--	598		90.3		2420		802		162		132		22.3		45.7		33		3		30.9		1360		105	
Chromium (Hexavalent)	mg/kg	20	--		5.3	U	5.6	U	5.3	U	4.2	U	8.7	U	3.3	U	9.5	U	2.5	U	3	U	8.7	U	4.5	U	12.9	U
Hydronium Ion (pH)	SU	--	--		8.24		11.5		7.26		11.6		7.47		10.5		7.56		12.5		8.79		7.05		7.25		7.4	
Oxidation Reduction Potential	mV	--	--		223		52		184		132		168		179		228		91		370		280		217		412	

Constituent	Units	Criterion ⁽²⁾	CR-18/18R		CR-18/18R		CR-19/19R		CR-19/19R		CR-20/20R		CR-20/20R		CR-21/21R		CR-21/21R		CR-22/22R		CR-22/22R		CR-23/23R		CR-23/23R	
			04/02/09		04/02/09		04/02/09		04/02/09		04/02/09		04/02/09		04/02/09		04/02/09		04/01/09		04/02/09		04/01/09		04/01/09	
			06/12/09		06/12/09		06/12/09		06/12/09		06/12/09		06/12/09		06/12/09		06/12/09		06/10/09		06/10/09		06/10/09		06/10/09	
			0.0-0.5		3.0-3.5		0.0-0.5		2.0-2.5		0.0-0.5		2.6-3.1		0.0-0.5		3.5-4.0		0.0-0.5		3.0-3.5		0.0-0.5		2.0-2.5	
			3.0-3.5		6.0-6.5		6.2-6.7		8.2-8.7		3.8-4.3		6.4-6.9		3.3-3.8		6.8-7.3		6.9-7.4		9.9-10.4		8.0-8.5		10.0-10.5	
Chromium	mg/kg	--	217		416		395		366		526		1100		26.1		692		96.6		42.1		246		6120	
Chromium (Hexavalent)	mg/kg	20	4.4	U	7.7	U	5.8	U	6.1	U	3.1	U	13.8	U	2.5	U	13.8	U	3.1	U	10.1	U	5		5.7	U
Hydronium Ion (pH)	SU	--	9.97		7.28		10.1		6.16		7.4		5.37		7.93		4.33		8.6		6.59		8.42		6.94	
Oxidation Reduction Potential	mV	--	117		187		-87		291		290		354		316		436		472		475		429		323	

Constituent	Units	Criterion ⁽²⁾	CR-24/24R	CR-24/24R	CR-24/24R	CR-25/25R	CR-25/25R	CR-25/25R	CR-26/26R	CR-26/26R	CR-26/26R	CR-27/27R	CR-27/27R	CR-27/27R												
			03/31/09	03/31/09	03/31/09	04/01/09	04/01/09	04/01/09	03/31/09	03/31/09	03/31/09	03/31/09	03/31/09	03/31/09	03/31/09											
			06/10/09	06/10/09	06/10/09	06/10/09	06/10/09	06/10/09	06/10/09	06/10/09	06/10/09	06/11/09	06/11/09	06/11/09	06/11/09											
			0.0-0.5	2.5-3.0	6.5-7.0	0.0-0.5	1.0-1.5	5.0-5.5	0.0-0.5	4.0-4.5	6.5-7.0	0.0-0.5	1.0-1.5	2.5-3.0												
			7.5-8.0	10.0-10.5	14.0-14.5	5.1-5.6	6.0-6.5	10.1-10.6	5.2-5.7	9.2-9.7	11.7-12.2	7.1-7.6	8.1-8.6	9.6-10.6												
Chromium	mg/kg	--	5290		6180		6170		2040		41.4		27.3		1150		1590		9560		121		52.9		23200	
Chromium (Hexavalent)	mg/kg	20	121		173		21.3		2.7	U	2.8	U	11.5	U	2.8	U	3.5	U	7.4	U	2.8	U	2.7	U	5.8	U
Hydronium Ion (pH)	SU	--	10.2		11.4		10.1		8.42		7.41		6.58		7.92		8.68		8.44		7.34		7.87		7.79	
Oxidation Reduction Potential	mV	--	307		260		268		103		191		158		211		210		377		394		362		164	

Notes:

1. Samples for hexavalent chromium analysis were recollected and analyzed after completion of data validation on the initial samples was completed.
PDM fill had been placed during the interim and consequently differences in depths between the June and March samples are evident. The June depths correspond to the pre-fill March depths.
2. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-1 04/07/09 18-18.5	D-2 04/07/09 20-20.5	D-3 04/10/09 19.5-20	D-4 04/09/09 14.5-15	D-4 04/09/09 23.5-24	D-5 04/09/09 25.5-26	D-6 04/08/09 15.5-16	D-6 04/08/09 20-20.5	D-6 04/08/09 20-20.5	D-7 04/08/09 14.8-15.3	D-7 04/08/09 18-18.5	D-8 04/13/09 29-29.5	D-9 04/13/09 22-22.5													
Volatile Organic Compounds																												
1,1,1-Trichloroethane	mg/Kg	4200	0.06	U	0.062	U	0.0006	U	57	U	0.00067	U	0.067	U	0.058	U	0.00062	U	0.0007	U	0.055	U	0.0007	U	0.00063	U	0.00058	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.054	U	0.056	U	0.00089	U	51	U	0.00098	U	0.06	U	0.052	U	0.00091	U	0.001	U	0.05	U	0.001	U	0.00094	U	0.00085	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.019	U	0.02	U	0.0013	U	18	U	0.0015	U	0.021	U	0.018	U	0.0014	U	0.0015	U	0.018	U	0.0015	U	0.0014	U	0.0013	U
1,1,2-Trichloroethane	mg/Kg	6	0.068	U	0.07	U	0.001	U	64	U	0.0011	U	0.075	U	0.065	U	0.0011	U	0.0012	U	0.062	U	0.0012	U	0.0011	U	0.00099	U
1,1-Dichloroethane	mg/Kg	24	0.059	U	0.061	U	0.00071	U	56	U	0.00079	U	0.065	U	0.057	U	0.00073	U	0.00083	U	0.054	U	0.00082	U	0.00075	U	0.00068	U
1,1-Dichloroethene	mg/Kg	150	0.062	U	0.064	U	0.001	U	59	U	0.0012	U	0.069	U	0.06	U	0.0011	U	0.0012	U	0.057	U	0.0012	U	0.0011	U	0.001	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.028	J	0.023	U	0.0011	U	56	J	0.0012	U	0.028	J	0.049	J	0.0011	U	0.0013	U	0.02	U	0.0013	U	0.0012	U	0.001	U
1,2-Dibromoethane	mg/Kg	0.04	0.036	U	0.037	U	0.0011	U	34	U	0.0012	U	0.04	U	0.034	U	0.0011	U	0.0012	U	0.033	U	0.0012	U	0.0011	U	0.001	U
1,2-Dichlorobenzene	mg/Kg	59000	1.3		0.53		0.00099	U	3700		0.0011	U	0.36		2.9		0.001	U	0.0011	U	0.64		0.0011	U	0.001	U	0.00095	U
1,2-Dichloroethane	mg/Kg	3	0.056	U	0.058	U	0.00076	U	53	U	0.00084	U	0.062	U	0.054	U	0.00078	U	0.00088	U	0.051	U	0.00088	U	0.0008	U	0.00073	U
1,2-Dichloropropane	mg/Kg	5	0.074	U	0.077	U	0.00067	U	70	U	0.00074	U	0.082	U	0.071	U	0.00069	U	0.00078	U	0.068	U	0.00078	U	0.00071	U	0.00064	U
1,3-Dichlorobenzene	mg/Kg	59000	1.2		0.39		0.00081	U	4200		0.0009	U	0.36		3.6		0.00083	U	0.00094	U	0.62		0.00094	U	0.00086	U	0.00078	U
1,4-Dichlorobenzene	mg/Kg	13	1.8		0.57		0.00079	U	5200		0.00087	U	0.46		4.5		0.00081	U	0.00092	U	0.9		0.00091	U	0.00083	U	0.00076	U
2-Butanone	mg/Kg	44000	0.063	U	0.065	U	0.0011	U	60	U	0.0012	U	0.07	U	0.061	U	0.0011	U	0.0013	U	0.058	U	0.0013	U	0.0012	U	0.001	U
2-Hexanone	mg/Kg	--	0.033	U	0.034	U	0.00085	U	31	U	0.00095	U	0.037	U	0.032	U	0.00087	U	0.00099	U	0.031	U	0.00099	U	0.0009	U	0.00082	U
4-Methyl-2-pentanone	mg/Kg	--	0.034	U	0.036	U	0.00081	U	33	U	0.00089	U	0.038	U	0.033	U	0.00083	U	0.00094	U	0.032	U	0.00093	U	0.00085	U	0.00077	U
Acetone	mg/Kg	--	0.29	U	0.3	U	0.0062	U	280	U	0.007	J	0.32	U	0.28	U	0.0063	U	0.0072	U	0.27	U	0.0072	U	0.0065	U	0.0059	U
Benzene	mg/Kg	5	0.058	U	0.15	J	0.00083	U	54	U	0.00092	U	0.064	U	0.055	U	0.00085	U	0.00097	U	0.053	U	0.00097	U	0.00088	U	0.0008	U
Bromodichloromethane	mg/Kg	3	0.054	U	0.056	U	0.00069	U	51	U	0.00077	U	0.06	U	0.052	U	0.00071	U	0.00081	U	0.05	U	0.0008	U	0.00073	U	0.00067	U
Bromoform	mg/Kg	280	0.062	U	0.064	U	0.00055	U	59	U	0.00061	U	0.069	U	0.06	U	0.00056	U	0.00064	U	0.057	U	0.00063	U	0.00058	U	0.00052	U
Bromomethane	mg/Kg	59	0.092	U	0.095	U	0.00091	U	87	U	0.001	U	0.1	U	0.088	U	0.00094	U	0.0011	U	0.084	U	0.0011	U	0.00096	U	0.00088	U
Carbon disulfide	mg/Kg	110000	0.062	U	0.065	U	0.00063	U	59	U	0.0007	U	0.069	U	0.06	U	0.00065	U	0.00074	U	0.058	U	0.00073	U	0.00067	U	0.00061	U
Carbon Tetrachloride	mg/Kg	2	0.063	U	0.065	U	0.00055	U	60	U	0.00061	U	0.07	U	0.061	U	0.00057	U	0.00064	U	0.058	U	0.00064	U	0.00058	U	0.00053	U
Chlorobenzene	mg/Kg	7400	0.17	J	0.43		0.00094	U	51	J	0.001	U	0.034	U	0.13	J	0.00096	U	0.0011	U	0.05	J	0.0011	U	0.00099	U	0.0009	U
Chloroethane	mg/Kg	1100	0.043	U	0.045	U	0.0019	U	41	U	0.0021	U	0.048	U	0.042	U	0.002	U	0.0022	U	0.04	U	0.0022	U	0.002	U	0.0018	U
Chloroform	mg/Kg	2	0.059	U	0.061	U	0.00072	U	55	U	0.0008	U	0.065	U	0.056	U	0.00074	U	0.00084	U	0.054	U	0.00084	U	0.00076	U	0.00069	U
Chloromethane	mg/Kg	12	0.081	U	0.084	U	0.0011	U	77	U	0.0012	U	0.09	U	0.078	U	0.0011	U	0.0012	U	0.075	U	0.0012	U	0.0011	U	0.001	U
cis-1,2-Dichloroethene	mg/Kg	560	0.039	U	0.04	U	0.00087	U	37	U	0.00096	U	0.043	U	0.037	U	0.00089	U	0.001	U	0.036	U	0.001	U	0.00092	U	0.00083	U
cis-1,3-Dichloropropene	mg/Kg	7	0.042	U	0.044	U	0.00084	U	40	U	0.00093	U	0.047	U	0.041	U	0.00086	U	0.00097	U	0.039	U	0.00097	U	0.00088	U	0.0008	U
Cyclohexane	mg/Kg	--	0.035	U	0.036	U	0.00046	U	33	U	0.00051	U	0.039	U	0.033	U	0.00047	U	0.00053	U	0.032	U	0.00053	U	0.00048	U	0.00044	U
Dibromochloromethane	mg/Kg	8	0.02	U	0.021	U	0.00093	U	19	U	0.001	U	0.023	U	0.02	U	0.00095	U	0.0011	U	0.019	U	0.0011	U	0.00098	U	0.00089	U
Dibromochloropropane	mg/Kg	--	0.038	U	0.039	U	0.00088	U	36	U	0.00097	U	0.042	U	0.036	U	0.0009	U	0.001	U	0.035	U	0.001	U	0.00093	U	0.00084	U
Dichlorodifluoromethane	mg/Kg	230000	0.037	U	0.038	U	0.00082	U	35	U	0.00091	U	0.041	U	0.035	U	0.00084	U	0.00096	U	0.034	U	0.00095	U	0.00087	U	0.00079	U
Ethylbenzene	mg/Kg	110000	0.036	U	0.037	U	0.00079	U	34	U	0.00088	U	0.04	U	0.035	U	0.00081	U	0.00092	U	0.033	U	0.00092	U	0.00084	U	0.00076	U
Isopropylbenzene	mg/Kg	--	0.031	U	0.032	U	0.00084	U	29	U	0.00093	U	0.034	U	0.03	U	0.00086	U	0.00098	U	0.028	U	0.00097	U	0.00089	U	0.00081	U
Methyl Acetate	mg/Kg	--	0.071	U	0.074	U	0.0011	U	68	U	0.0012	U	0.079	U	0.069	U	0.0011	U	0.0013	U	0.066	U	0.0013	U	0.0012	U	0.0011	U
Methylcyclohexane	mg/Kg	--	0.032	U	0.034	U	0.0009	U	31	U	0.00099	U	0.036	U	0.031	U	0.00092	U	0.001	U	0.03	U	0.001	U	0.00095	U	0.00086	U
Methylene chloride	mg/Kg	97	0.091	J	0.066	U	0.00083	U	60	U	0.00092	U	0.07	U	0.061	U	0.00085	U	0.00097	U	0.058	U	0.00096	U	0.0016	JB	0.0008	U
Methyltert-butylether	mg/Kg	320	0.06	U	0.062	U	0.00092	U	56	U	0.001	U	0.066	U	0.057	U	0.00095	U	0.0011	U	0.055	U	0.0011	U	0.00098	U	0.00089	U
Styrene	mg/Kg	260	0.037	U	0.039	U	0.00087	U	35	U	0.00097	U	0.041	U	0.036	U	0.00089	U	0.001	U	0.034	U	0.001	U	0.00092	U	0.00084	U
Tetrachloroethene	mg/Kg	5	0.048	U	0.05	U	0.00084	U	45	U	0.00093	U	0.053	U	0.046	U	0.00086	U	0.00098	U	0.044	U	0.00097	U	0.00089	U	0.00081	U
Toluene	mg/Kg	91000	0.049	U	0.051	U	0.0009	U	47	U	0.001	U	0.055	U	0.047	U	0.00092	U	0.001	U	0.045	U	0.001	U	0.00095	U	0.00087	U
trans-1,2-Dichloroethene	mg/Kg	720	0.044	U	0.045	U	0.00074	U	41	U	0.00082	U	0.049	U	0.042	U	0.00075	U	0.00086	U	0.04	U	0.00085	U	0.00078	U	0.00071	U
Trans-1,3-Dichloropropene	mg/Kg	7	0.034	U	0.035	U	0.00074	U	32	U	0.00082	U	0.038	U	0.033	U	0.00076	U	0.00086	U	0.031	U	0.00086	U	0.00078	U	0.00071	U
Trichloroethene	mg/Kg	20	0.047	U	0.048	U	0.00081	U	44	U	0.0009	U	0.052	U	0.045	U	0.00083	U	0.00095	U	0.043	U	0.00094	U	0.00086	U	0.00078	U
Trichlorofluoromethane	mg/Kg	340000	0.065	U	0.067	U	0.0011	U	62	U	0.0013	U	0.072	U	0.063	U	0.0012	U	0.0013	U	0.06	U	0.0013	U	0.0012	U	0.0011	U
Vinyl chloride	mg/Kg	2	0.075	U	0.078	U	0.00058	U	71	U	0.00064	U	0.083	U	0.072	U	0.00059	U	0.00067	U	0.069	U	0.00067	U	0.00061	U	0.00056	U
Xylene (total)	mg/Kg	170000	0.11	U	0.12	U	0.0028	U	110	U	0.0031	U	0.13	U	0.12	J	0.0028	U	0.0032	U	0.11	U	0.0032	U	0.0029	U	0.0027	U

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-1 04/07/09 18-18.5		D-2 04/07/09 20-20.5		D-3 04/10/09 19.5-20		D-4 04/09/09 14.5-15		D-4 04/09/09 23.5-24		D-5 04/09/09 25.5-26		D-6 04/08/09 15.5-16		D-6 04/08/09 20-20.5		D-6 04/08/09 20-20.5		D-7 04/08/09 14.8-15.3		D-7 04/08/09 18-18.5		D-8 04/13/09 29-29.5		D-9 04/13/09 22-22.5	
Semivolatile Organic Compounds																												
1,1'-Biphenyl	mg/Kg	34000	0.13	J	0.019	U	0.021	U	0.043	J	0.02	U	0.02	U	0.023	J	0.02	U	0.021	U	0.017	U	0.019	U	0.02	U	0.02	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.018	U	0.019	U	0.021	U	0.017	U	0.019	U	0.019	U	0.017	U	0.019	U	0.02	U	0.016	U	0.019	U	0.019	U	0.019	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.01	U	0.011	U	0.012	U	0.0095	U	0.011	U	0.011	U	0.0096	U	0.011	U	0.011	U	0.0093	U	0.011	U	0.011	U	0.011	U
2,4,6-Trichlorophenol	mg/Kg	74	0.02	U	0.021	U	0.023	U	0.019	U	0.022	U	0.022	U	0.019	U	0.022	U	0.023	U	0.019	U	0.021	U	0.022	U	0.022	U
2,4-Dichlorophenol	mg/Kg	2100	0.14		0.017	U	0.019	U	0.071	J	0.018	U	0.018	U	0.06	J	0.018	U	0.018	U	0.015	U	0.017	U	0.018	U	0.018	U
2,4-Dimethylphenol	mg/Kg	14000	0.017	U	0.018	U	0.02	U	0.016	U	0.018	U	0.018	U	0.016	U	0.018	U	0.019	U	0.016	U	0.018	U	0.018	U	0.019	U
2,4-Dinitrophenol	mg/Kg	1400	0.13	U	0.14	U	0.15	U	0.12	U	0.14	U	0.14	U	0.12	U	0.14	U	0.15	U	0.12	U	0.14	U	0.14	U	0.14	U
2,4-Dinitrotoluene	mg/Kg	3	0.019	U	0.02	U	0.022	U	0.018	U	0.02	U	0.021	U	0.018	U	0.02	U	0.021	U	0.018	U	0.02	U	0.02	U	0.021	U
2,6-Dinitrotoluene	mg/Kg	3	0.021	U	0.022	U	0.024	U	0.02	U	0.022	U	0.022	U	0.02	U	0.022	U	0.023	U	0.019	U	0.022	U	0.022	U	0.023	U
2-Chloronaphthalene	mg/Kg	--	0.011	U	0.012	U	0.013	U	0.01	U	0.012	U	0.012	U	0.01	U	0.012	U	0.012	U	0.01	U	0.012	U	0.012	U	0.012	U
2-Chlorophenol	mg/Kg	2200	0.012	U	0.013	U	0.014	U	0.012	U	0.013	U	0.014	U	0.012	U	0.013	U	0.014	U	0.012	U	0.013	U	0.013	U	0.014	U
2-Methylnaphthalene	mg/Kg	2400	0.49		0.017	U	0.018	U	0.15		0.017	U	0.017	U	0.051	J	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.018	U
2-Methylphenol	mg/Kg	3400	0.015	U	0.016	U	0.017	U	0.014	U	0.016	U	0.016	U	0.014	U	0.016	U	0.017	U	0.014	U	0.016	U	0.016	U	0.016	U
2-Nitroaniline	mg/Kg	23000	0.025	U	0.026	U	0.029	U	0.023	U	0.027	U	0.027	U	0.024	U	0.027	U	0.028	U	0.023	U	0.026	U	0.027	U	0.027	U
2-Nitrophenol	mg/Kg	--	0.015	U	0.016	U	0.018	U	0.015	U	0.017	U	0.017	U	0.015	U	0.017	U	0.017	U	0.014	U	0.016	U	0.017	U	0.017	U
3,3-Dichlorobenzidine	mg/Kg	4	0.076	U	0.081	U	0.089	U	0.072	U	0.082	U	0.083	U	0.073	U	0.082	U	0.085	U	0.071	U	0.081	U	0.082	U	0.084	U
3-Nitroaniline	mg/Kg	--	0.013	U	0.014	U	0.015	U	0.013	U	0.014	U	0.014	U	0.013	U	0.014	U	0.015	U	0.012	U	0.014	U	0.014	U	0.015	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.39	U	0.41	U	0.45	U	0.37	U	0.42	U	0.42	U	0.37	U	0.42	U	0.44	U	0.36	U	0.41	U	0.42	U	0.43	U
4-Bromophenylphenyl ether	mg/Kg	--	0.017	U	0.018	U	0.02	U	0.016	U	0.019	U	0.019	U	0.017	U	0.019	U	0.019	U	0.016	U	0.018	U	0.019	U	0.019	U
4-Chloro-3-methylphenol	mg/Kg	--	0.012	U	0.013	U	0.014	U	0.011	U	0.013	U	0.013	U	0.012	U	0.013	U	0.013	U	0.011	U	0.013	U	0.013	U	0.013	U
4-Chloroaniline	mg/Kg	--	0.013	U	0.013	U	0.015	U	0.012	U	0.013	U	0.014	U	0.012	U	0.013	U	0.014	U	0.012	U	0.013	U	0.013	U	0.014	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.018	U	0.019	U	0.021	U	0.017	U	0.019	U	0.019	U	0.017	U	0.019	U	0.02	U	0.017	U	0.019	U	0.019	U	0.02	U
4-Methylphenol	mg/Kg	340	0.018	U	0.019	U	0.021	U	0.017	U	0.019	U	0.019	U	0.017	U	0.019	U	0.02	U	0.017	U	0.019	U	0.019	U	0.02	U
4-Nitroaniline	mg/Kg	--	0.02	U	0.021	U	0.023	U	0.019	U	0.021	U	0.022	U	0.019	U	0.021	U	0.022	U	0.018	U	0.021	U	0.021	U	0.022	U
4-Nitrophenol	mg/Kg	--	0.24	U	0.25	U	0.28	U	0.23	U	0.26	U	0.26	U	0.23	U	0.26	U	0.27	U	0.22	U	0.25	U	0.26	U	0.26	U
Acenaphthene	mg/Kg	37000	0.19		0.014	U	0.015	U	0.012	U	0.014	U	0.014	U	0.012	J	0.014	U	0.015	U	0.012	U	0.014	U	0.014	U	0.014	U
Acenaphthylene	mg/Kg	300000	0.076	J	0.017	U	0.019	U	0.019	J	0.017	U	0.018	U	0.054	J	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.018	U
Acetophenone	mg/Kg	5	0.019	U	0.02	U	0.022	U	0.018	U	0.02	U	0.02	U	0.018	U	0.02	U	0.021	U	0.017	U	0.02	U	0.02	U	0.021	U
Anthracene	mg/Kg	30000	0.15		0.015	U	0.016	U	0.054	J	0.015	U	0.015	U	0.15		0.015	U	0.017	J	0.013	U	0.015	U	0.015	U	0.016	U
Atrazine	mg/Kg	2400	0.019	U	0.02	U	0.022	U	0.018	U	0.021	U	0.021	U	0.018	U	0.021	U	0.021	U	0.018	U	0.02	U	0.021	U	0.021	U
Benzaldehyde	mg/Kg	68000	0.011	U	0.011	U	0.012	U	0.01	U	0.011	U	0.012	U	0.01	U	0.011	U	0.012	U	0.0098	U	0.011	U	0.011	U	0.012	U
Benzo(a)anthracene	mg/Kg	2	0.087		0.014	U	0.015	U	0.037	J	0.014	U	0.014	U	0.09		0.014	U	0.014	U	0.012	U	0.014	U	0.014	U	0.014	U
Benzo(a)pyrene	mg/Kg	0.2	0.051	J	0.024	U	0.026	U	0.021	U	0.024	U	0.025	U	0.062	J	0.024	U	0.025	U	0.021	U	0.024	U	0.024	U	0.025	U
Benzo(b)fluoranthene	mg/Kg	2	0.3		0.017	U	0.019	U	0.016	U	0.018	U	0.018	U	0.18		0.018	U	0.018	U	0.015	U	0.017	U	0.018	U	0.018	U
Benzo(ghi)perylene	mg/Kg	30000	0.027	J	0.0063	U	0.0069	U	0.0056	U	0.0064	U	0.0065	U	0.031	J	0.0064	U	0.0066	U	0.0055	U	0.0063	U	0.0064	U	0.0065	U
Benzo(k)fluoranthene	mg/Kg	23	0.023	J	0.018	U	0.02	U	0.016	U	0.018	U	0.018	U	0.016	U	0.018	U	0.019	U	0.016	U	0.018	U	0.018	U	0.019	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.016	U	0.017	U	0.019	U	0.015	U	0.017	U	0.018	U	0.016	U	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.018	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.0071	U	0.0075	U	0.0082	U	0.0067	U	0.0076	U	0.0077	U	0.0068	U	0.0076	U	0.0079	U	0.0066	U	0.0075	U	0.0076	U	0.0078	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.09	J	0.036	U	0.04	U	0.032	U	0.037	U	0.037	U	0.033	U	0.037	U	0.038	U	0.032	U	0.036	U	0.037	U	0.038	U
Butyl benzyl phthalate	mg/Kg	14000	0.028	U	0.03	U	0.033	U	0.027	U	0.03	U	0.031	U	0.027	U	0.03	U	0.032	U	0.026	U	0.03	U	0.03	U	0.031	U
Caprolactam	mg/Kg	340000	0.053	U	0.056	U	0.061	U	0.05	U	0.057	U	0.058	U	0.051	U	0.057	U	0.059	U	0.049	U	0.056	U	0.057	U	0.058	U
Carbazole	mg/Kg	96	0.032	J	0.011	U	0.012	U	0.01	U	0.011	U	0.012	U	0.026	J	0.011	U	0.012	U	0.0099	U	0.011	U	0.011	U	0.012	U
Chrysene	mg/Kg	230	0.066	J	0.015	U	0.016	U	0.035	J	0.015	U	0.015	U	0.076	J	0.015	U	0.016	U	0.013	U	0.015	U	0.015	U	0.016	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.018	U	0.019	U	0.021	U	0.017	U	0.019	U	0.019	U	0.017	U	0.019	U	0.02	U	0.017	U	0.019	U	0.019	U	0.02	U
Dibenzofuran	mg/Kg	--	0.048	J	0.014	U	0.016	U	0.013	U	0.015	U	0.015	U	0.061	J	0.015	U	0.015	U	0.013	U	0.014	U	0.015	U	0.015	U
Diethyl phthalate	mg/Kg	550000	0.023	U	0.024	U	0.027	U	0.022	U	0.025	U	0.025	U	0.022	U	0.025	U	0.026	U	0.021	U	0.024	U	0.025	U	0.025	U
Dimethyl phthalate	mg/Kg	--	0.014	U	0.014	U	0.016	U	0.013	U	0.015	U	0.015	U	0.013	U	0.015	U	0.015	U	0.013	U	0.014	U	0.015	U	0.015	U
Di-n-butyl phthalate	mg/Kg	68000	0.023	U	0.024	U	0.026	U	0.021	U	0.024	U	0.025	U	0.022	U	0.024	U	0.025	U	0.021	U	0.024	U	0.024	U	0.025	U

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-1 04/07/09 18-18.5		D-2 04/07/09 20-20.5		D-3 04/10/09 19.5-20		D-4 04/09/09 14.5-15		D-4 04/09/09 23.5-24		D-5 04/09/09 25.5-26		D-6 04/08/09 15.5-16		D-6 04/08/09 20-20.5		D-6 04/08/09 20-20.5		D-7 04/08/09 14.8-15.3		D-7 04/08/09 18-18.5		D-8 04/13/09 29-29.5		D-9 04/13/09 22-22.5	
Semivolatile Organic Compounds (Continued)																												
Di-n-octyl phthalate	mg/Kg	27000	0.01	U	0.011	U	0.012	U	0.0099	U	0.011	U	0.011	U	0.01	U	0.011	U	0.012	U	0.0097	U	0.011	U	0.011	U	0.011	U
Fluoranthene	mg/Kg	24000	0.16		0.0072	U	0.0079	U	0.058	J	0.0073	U	0.0074	U	0.3		0.035	J	0.041	J	0.012	J	0.021	J	0.0073	U	0.0075	U
Fluorene	mg/Kg	24000	0.14		0.013	U	0.014	U	0.037	J	0.013	U	0.013	U	0.11		0.013	U	0.014	U	0.011	U	0.013	U	0.013	U	0.013	U
Hexachlorobenzene	mg/Kg	1	0.064	J	0.016	U	0.018	U	0.015	U	0.016	U	0.017	U	0.015	U	0.016	U	0.017	U	0.014	U	0.016	U	0.016	U	0.017	U
Hexachlorobutadiene	mg/Kg	25	0.017	U	0.018	U	0.02	U	0.016	U	0.018	U	0.019	U	0.016	U	0.018	U	0.019	U	0.016	U	0.018	U	0.018	U	0.019	U
Hexachlorocyclopentadiene	mg/Kg	110	0.015	U	0.016	U	0.018	U	0.015	U	0.017	U	0.017	U	0.015	U	0.017	U	0.017	U	0.014	U	0.016	U	0.017	U	0.017	U
Hexachloroethane	mg/Kg	140	0.014	U	0.014	U	0.016	U	0.013	U	0.015	U	0.015	U	0.013	U	0.015	U	0.015	U	0.013	U	0.014	U	0.015	U	0.015	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.021	J	0.0047	U	0.0052	U	0.0042	U	0.0048	U	0.0048	U	0.16		0.0048	U	0.005	U	0.0041	U	0.0047	U	0.0048	U	0.0049	U
Isophorone	mg/Kg	2000	0.016	U	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.015	U	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.017	U
Naphthalene	mg/Kg	17	1.6		0.012	U	0.014	U	0.54		0.013	U	0.013	U	0.58		0.12		0.11		0.011	U	0.013	J	0.013	U	0.013	U
Nitrobenzene	mg/Kg	340	0.02	U	0.022	U	0.024	U	0.019	U	0.022	U	0.022	U	0.02	U	0.022	U	0.023	U	0.019	U	0.021	U	0.022	U	0.022	U
N-Nitrosodiphenylamine	mg/Kg	390	0.017	U	0.018	U	0.019	U	0.016	U	0.018	U	0.018	U	0.016	U	0.018	U	0.019	U	0.015	U	0.017	U	0.018	U	0.018	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.022	U	0.024	U	0.026	U	0.021	U	0.024	U	0.024	U	0.022	U	0.024	U	0.025	U	0.021	U	0.024	U	0.024	U	0.025	U
Pentachlorophenol	mg/Kg	10	0.07	U	0.074	U	0.081	U	0.067	U	0.076	U	0.076	U	0.067	U	0.076	U	0.079	U	0.065	U	0.074	U	0.076	U	0.077	U
Phenanthrene	mg/Kg	300000	0.34		0.01	U	0.011	U	0.14		0.01	U	0.011	U	0.59		0.046	J	0.064	J	0.013	J	0.023	J	0.01	U	0.011	U
Phenol	mg/Kg	210000	0.016	U	0.017	U	0.019	U	0.015	U	0.017	U	0.017	U	0.015	U	0.017	U	0.018	U	0.015	U	0.017	U	0.017	U	0.018	U
Pyrene	mg/Kg	18000	0.17		0.023	U	0.025	U	0.085		0.023	U	0.023	U	0.23		0.031	J	0.036	J	0.02	U	0.023	U	0.023	U	0.024	U
Metals																												
Aluminum	mg/Kg	--	3.54	J	11.5	J	11.3		2.72	J	11.5	J	10.6	J	3.25	J	10.7	J	11.5	J	3.13	J	8.81	J	13.9	E	12.1	
Antimony	mg/Kg	450	0.00026	U	0.00027	U	0.00034	B	0.00024	U	0.00028	U	0.00028	U	0.00025	U	0.00028	U	0.00029	B	0.00024	U	0.00027	B	0.00028	U	0.00028	U
Arsenic	mg/Kg	19	0.0034		0.0045		0.0042		0.0017		0.0067		0.007		0.003		0.0055		0.0056		0.0013		0.0041		0.0082		0.0059	
Barium	mg/Kg	59000	0.0199	BJ	0.0793	J	0.066		0.0158	B	0.0725		0.0647		0.0125	B	0.0604		0.0874		0.0119	B	0.0425		0.0836		0.0789	
Beryllium	mg/Kg	140	0.00033	B	0.0008		0.00085		0.00026	BJ	0.00088	J	0.00081	J	0.00039	BJ	0.00082	J	0.00088	J	0.0003	BJ	0.00073	J	0.00096		0.00093	
Cadmium	mg/Kg	78	0.000047	B	0.00022	B	0.00003	U	0.000084	B	0.00041	B	0.00035	B	0.00011	B	0.00037	B	0.00041	B	0.000062	B	0.00027	B	0.000033	BJ	0.000041	BJ
Calcium	mg/Kg	--	0.814	J	4.17	J	5.66	J	0.564	BJ	6.34	J	7.75	J	0.818	J	5.92	J	6.89	J	0.484	BJ	2.74	J	7.66	JE	5.7	J
Chromium	mg/Kg	120000	0.0084	J	0.0204	J	0.0177	J	0.0065		0.0192		0.0182		0.0083		0.0183		0.02		0.0067		0.0151		0.0232	JE	0.0217	J
Cobalt	mg/Kg	590	0.0036	B	0.0108		0.0121		0.0025	B	0.011		0.01	E	0.0031	B	0.0105		0.0112		0.0027	B	0.0091		0.0127	E	0.0127	
Copper	mg/Kg	45000	0.0073		0.021		0.0198		0.0055		0.023		0.0225		0.0059		0.0204		0.0222		0.0054		0.0162		0.0274		0.024	
Iron	mg/Kg	--	11.7	J	25	J	35	J	6.4		27.7		25.5		11.8		27.2		28.6		7.78		20.5		32.2	JE	30	J
Lead	mg/Kg	800	0.0028		0.0126		0.0135		0.0021		0.0124		0.0093		0.0026		0.0125		0.0129		0.0022		0.0115		0.0118		0.0142	
Magnesium	mg/Kg	--	1.44	J	6.27	J	7.08		1.17		7.43		7.08		1.47		6.85		7.6		1.23		4.82		8.85	E	7.59	
Manganese	mg/Kg	5900	0.0619	J	0.55	J	0.957		0.0409		0.57		0.527		0.0529		0.625		0.659		0.0423		0.432		0.636	E	0.619	
Mercury	mg/Kg	65	0.000013	U	0.000016	B	0.000029	B	0.000015	B	0.000031	B	0.00003	B	0.0002		0.000044		0.000026	B	0.000012	U	0.000015	B	0.00003	B	0.000029	B
Nickel	mg/Kg	23000	0.007		0.0235		0.0249		0.0057		0.0242		0.0217	E	0.0075		0.0227		0.024		0.0058		0.0194		0.0277	E	0.0265	
Potassium	mg/Kg	--	0.457	B	1.93		1.71		0.371	B	1.71		1.56		0.377	B	1.67		1.79		0.396	B	1.42		2.02		1.81	
Selenium	mg/Kg	5700	0.00021	U	0.00022	U	0.00025	U	0.0002	U	0.00023	U	0.00023	U	0.0002	U	0.00023	U	0.00024	U	0.0002	U	0.00022	U	0.00023	U	0.00023	U
Silver	mg/Kg	5700	0.000081	U	0.00012	B	0.00019	B	0.000076	U	0.00026	BJ	0.00019	BJ	0.0014	J	0.0015	J	0.00027	BJ	0.00019	BJ	0.00015	BJ	0.00015	B	0.00017	B
Sodium	mg/Kg	--	0.271	BJ	0.392	BJ	0.391	B	0.248	B	0.315	B	0.289	B	0.137	B	0.574	B	0.62	B	0.205	B	0.606	B	0.519	B	1.03	
Thallium	mg/Kg	79	0.00038	U	0.00039	U	0.00044	U	0.00035	U	0.0004	U	0.00041	U	0.00036	U	0.0004	U	0.00042	U	0.00035	U	0.00039	U	0.0004	U	0.00041	U
Vanadium	mg/Kg	1100	0.0115		0.0263		0.0212		0.0088		0.0244		0.0244		0.0154		0.0232		0.0261		0.0092		0.0192		0.0306	E	0.0285	
Zinc	mg/Kg	110000	0.0187	J	0.0609	J	0.067	J	0.0136	J	0.0601	J	0.052	JE	0.0172	J	0.0579	J	0.0613	J	0.0146	J	0.0522	J	0.0664	JE	0.0671	J
Miscellaneous																												
Percent Solids	%	--	81.7		78		70.4		87		76.7		75.1		85.9		76.6		73.7		87.7		78.2		76.7		75	

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-10 04/14/09 21.5-22		D-11 04/14/09 17-17.5		D-12 04/15/09 16-16.5		D-13 04/06/09 18-18.5	
Volatile Organic Compounds										
1,1,1-Trichloroethane	mg/Kg	4200	0.00064	U	0.00062	U	0.00059	U	0.00059	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.00095	U	0.00092	U	0.00088	U	0.00087	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.0014	U	0.0014	U	0.0013	U	0.0013	U
1,1,2-Trichloroethane	mg/Kg	6	0.0011	U	0.0011	U	0.001	U	0.001	U
1,1-Dichloroethane	mg/Kg	24	0.00076	U	0.00074	U	0.0007	U	0.0007	U
1,1-Dichloroethene	mg/Kg	150	0.0011	U	0.0011	U	0.001	U	0.001	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.0012	U	0.0011	U	0.0011	U	0.0011	U
1,2-Dibromoethane	mg/Kg	0.04	0.0011	U	0.0011	U	0.0011	U	0.001	U
1,2-Dichlorobenzene	mg/Kg	59000	0.001	U	0.001	U	0.00097	U	0.00097	U
1,2-Dichloroethane	mg/Kg	3	0.00081	U	0.00078	U	0.00075	U	0.00074	U
1,2-Dichloropropane	mg/Kg	5	0.00071	U	0.00069	U	0.00066	U	0.00066	U
1,3-Dichlorobenzene	mg/Kg	59000	0.00086	U	0.00084	U	0.0008	U	0.0008	U
1,4-Dichlorobenzene	mg/Kg	13	0.00084	U	0.00081	U	0.00078	U	0.00077	U
2-Butanone	mg/Kg	44000	0.0012	U	0.0011	U	0.0011	U	0.0011	U
2-Hexanone	mg/Kg	--	0.00091	U	0.00088	U	0.00084	U	0.00084	U
4-Methyl-2-pentanone	mg/Kg	--	0.00086	U	0.00083	U	0.0008	U	0.00079	U
Acetone	mg/Kg	--	0.0066	U	0.0086	J	0.0061	U	0.0061	U
Benzene	mg/Kg	5	0.00089	U	0.00086	U	0.00082	U	0.00082	U
Bromodichloromethane	mg/Kg	3	0.00074	U	0.00072	U	0.00068	U	0.00068	U
Bromoform	mg/Kg	280	0.00058	U	0.00057	U	0.00054	U	0.00054	U
Bromomethane	mg/Kg	59	0.00097	U	0.00094	U	0.0009	U	0.0009	U
Carbon disulfide	mg/Kg	110000	0.00067	U	0.00065	U	0.00062	U	0.00062	U
Carbon Tetrachloride	mg/Kg	2	0.00059	U	0.00057	U	0.00054	U	0.00054	U
Chlorobenzene	mg/Kg	7400	0.001	U	0.00097	U	0.00092	U	0.00092	U
Chloroethane	mg/Kg	1100	0.002	U	0.002	U	0.0019	U	0.0019	U
Chloroform	mg/Kg	2	0.00077	U	0.00075	U	0.00071	U	0.00071	U
Chloromethane	mg/Kg	12	0.0011	U	0.0011	U	0.001	U	0.001	U
cis-1,2-Dichloroethene	mg/Kg	560	0.00093	U	0.0009	U	0.00086	U	0.00085	U
cis-1,3-Dichloropropene	mg/Kg	7	0.00089	U	0.00087	U	0.00083	U	0.00082	U
Cyclohexane	mg/Kg	--	0.00049	U	0.00047	U	0.00045	U	0.00045	U
Dibromochloromethane	mg/Kg	8	0.00098	U	0.00096	U	0.00091	U	0.00091	U
Dibromochloropropane	mg/Kg	--	0.00093	U	0.00091	U	0.00087	U	0.00086	U
Dichlorodifluoromethane	mg/Kg	230000	0.00088	U	0.00085	U	0.00081	U	0.00081	U
Ethylbenzene	mg/Kg	110000	0.00085	U	0.00082	U	0.00078	U	0.00078	U
Isopropylbenzene	mg/Kg	--	0.00089	U	0.00087	U	0.00083	U	0.00082	U
Methyl Acetate	mg/Kg	--	0.0012	U	0.0012	U	0.0011	U	0.0011	U
Methylcyclohexane	mg/Kg	--	0.00095	U	0.00093	U	0.00088	U	0.00088	U
Methylene chloride	mg/Kg	97	0.0017	JB	0.00086	U	0.0014	JB	0.00082	U
Methyltert-butylether	mg/Kg	320	0.00098	U	0.00096	U	0.00091	U	0.00091	U
Styrene	mg/Kg	260	0.00093	U	0.0009	U	0.00086	U	0.00086	U
Tetrachloroethene	mg/Kg	5	0.0009	U	0.00087	U	0.00083	U	0.00082	U
Toluene	mg/Kg	91000	0.00096	U	0.00093	U	0.00089	U	0.00088	U
trans-1,2-Dichloroethene	mg/Kg	720	0.00078	U	0.00076	U	0.00073	U	0.00072	U
Trans-1,3-Dichloropropene	mg/Kg	7	0.00079	U	0.00076	U	0.00073	U	0.00072	U
Trichloroethene	mg/Kg	20	0.00087	U	0.00084	U	0.0008	U	0.0008	U
Trichlorofluoromethane	mg/Kg	340000	0.0012	U	0.0012	U	0.0011	U	0.0011	U
Vinyl chloride	mg/Kg	2	0.00062	U	0.0006	U	0.00057	U	0.00057	U
Xylene (total)	mg/Kg	170000	0.0029	U	0.0029	U	0.0027	U	0.0027	U

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-10 04/14/09 21.5-22		D-11 04/14/09 17-17.5		D-12 04/15/09 16-16.5		D-13 04/06/09 18-18.5	
Semivolatile Organic Compounds										
1,1'-Biphenyl	mg/Kg	34000	0.02	U	0.02	U	0.019	U	0.019	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.019	U	0.019	U	0.018	U	0.018	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.011	U	0.011	U	0.01	U	0.01	U
2,4,6-Trichlorophenol	mg/Kg	74	0.022	U	0.021	U	0.021	U	0.021	U
2,4-Dichlorophenol	mg/Kg	2100	0.018	U	0.017	U	0.017	U	0.017	U
2,4-Dimethylphenol	mg/Kg	14000	0.018	U	0.018	U	0.018	U	0.017	U
2,4-Dinitrophenol	mg/Kg	1400	0.14	U	0.14	U	0.13	U	0.13	U
2,4-Dinitrotoluene	mg/Kg	3	0.02	U	0.02	U	0.02	U	0.019	U
2,6-Dinitrotoluene	mg/Kg	3	0.022	U	0.022	U	0.021	U	0.021	U
2-Chloronaphthalene	mg/Kg	--	0.012	U	0.012	U	0.011	U	0.011	U
2-Chlorophenol	mg/Kg	2200	0.013	U	0.013	U	0.013	U	0.013	U
2-Methylnaphthalene	mg/Kg	2400	0.017	U	0.017	U	0.017	U	0.016	U
2-Methylphenol	mg/Kg	3400	0.016	U	0.016	U	0.091	J	0.015	U
2-Nitroaniline	mg/Kg	23000	0.027	U	0.026	U	0.026	U	0.025	U
2-Nitrophenol	mg/Kg	--	0.017	U	0.016	U	0.016	U	0.016	U
3,3-Dichlorobenzidine	mg/Kg	4	0.082	U	0.081	U	0.079	U	0.078	U
3-Nitroaniline	mg/Kg	--	0.014	U	0.014	U	0.014	U	0.013	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.42	U	0.41	U	0.4	U	0.4	U
4-Bromophenylphenyl ether	mg/Kg	--	0.018	U	0.018	U	0.018	U	0.018	U
4-Chloro-3-methylphenol	mg/Kg	--	0.013	U	0.013	U	0.013	U	0.012	U
4-Chloroaniline	mg/Kg	--	0.013	U	0.013	U	0.013	U	0.013	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.019	U	0.019	U	0.019	U	0.018	U
4-Methylphenol	mg/Kg	340	0.019	U	0.019	U	0.25	J	0.018	U
4-Nitroaniline	mg/Kg	--	0.021	U	0.021	U	0.021	U	0.02	U
4-Nitrophenol	mg/Kg	--	0.26	U	0.25	U	0.25	U	0.24	U
Acenaphthene	mg/Kg	37000	0.014	U	0.014	U	0.013	U	0.013	U
Acenaphthylene	mg/Kg	300000	0.017	U	0.017	U	0.017	U	0.031	J
Acetophenone	mg/Kg	5	0.02	U	0.02	U	0.019	U	0.019	U
Anthracene	mg/Kg	30000	0.015	U	0.015	U	0.015	U	0.021	J
Atrazine	mg/Kg	2400	0.021	U	0.02	U	0.02	U	0.02	U
Benzaldehyde	mg/Kg	68000	0.011	U	0.011	U	0.011	U	0.011	U
Benzo(a)anthracene	mg/Kg	2	0.014	U	0.014	U	0.013	U	0.013	U
Benzo(a)pyrene	mg/Kg	0.2	0.024	U	0.024	U	0.023	U	0.026	J
Benzo(b)fluoranthene	mg/Kg	2	0.018	U	0.017	U	0.017	U	0.29	
Benzo(ghi)perylene	mg/Kg	30000	0.0064	U	0.0063	U	0.0062	U	0.02	J
Benzo(k)fluoranthene	mg/Kg	23	0.018	U	0.018	U	0.017	U	0.017	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.017	U	0.017	U	0.017	U	0.017	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.0076	U	0.0076	U	0.0074	U	0.0072	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.037	U	0.5		0.25	J	0.069	J
Butyl benzyl phthalate	mg/Kg	14000	0.03	U	0.03	U	0.029	U	0.029	U
Caprolactam	mg/Kg	340000	0.057	U	0.056	U	0.055	U	0.054	U
Carbazole	mg/Kg	96	0.011	U	0.011	U	0.011	U	0.011	U
Chrysene	mg/Kg	230	0.015	U	0.015	U	0.015	U	0.014	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.019	U	0.019	U	0.018	U	0.018	U
Dibenzofuran	mg/Kg	--	0.015	U	0.015	U	0.014	U	0.017	J
Diethyl phthalate	mg/Kg	550000	0.025	U	0.024	U	0.024	U	0.023	U
Dimethyl phthalate	mg/Kg	--	0.015	U	0.015	U	0.014	U	0.014	U
Di-n-butyl phthalate	mg/Kg	68000	0.024	U	0.024	U	0.023	U	0.023	U

TABLE 4-3
ANALYTICAL RESULTS
DNAPL DELINEATION BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent	Units	Criterion ⁽¹⁾	D-10 04/14/09 21.5-22		D-11 04/14/09 17-17.5		D-12 04/15/09 16-16.5		D-13 04/06/09 18-18.5	
Semivolatile Organic Compounds (Continued)										
Di-n-octyl phthalate	mg/Kg	27000	0.011	U	0.011	U	0.011	U	0.011	U
Fluoranthene	mg/Kg	24000	0.0073	U	0.0073	U	0.024	J	0.092	
Fluorene	mg/Kg	24000	0.013	U	0.013	U	0.013	U	0.022	J
Hexachlorobenzene	mg/Kg	1	0.016	U	0.016	U	0.016	U	0.016	U
Hexachlorobutadiene	mg/Kg	25	0.018	U	0.018	U	0.018	U	0.018	U
Hexachlorocyclopentadiene	mg/Kg	110	0.017	U	0.016	U	0.016	U	0.016	U
Hexachloroethane	mg/Kg	140	0.015	U	0.015	U	0.014	U	0.014	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.0048	U	0.0047	U	0.0046	U	0.015	J
Isophorone	mg/Kg	2000	0.017	U	0.017	U	0.016	U	0.016	U
Naphthalene	mg/Kg	17	0.013	U	0.013	U	0.028	J	0.058	J
Nitrobenzene	mg/Kg	340	0.022	U	0.022	U	0.021	U	0.021	U
N-Nitrosodiphenylamine	mg/Kg	390	0.018	U	0.018	U	0.017	U	0.017	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.024	U	0.024	U	0.023	U	0.023	U
Pentachlorophenol	mg/Kg	10	0.075	U	0.075	U	0.073	U	0.072	U
Phenanthrene	mg/Kg	300000	0.01	U	0.01	U	0.032	J	0.1	
Phenol	mg/Kg	210000	0.017	U	0.017	U	0.63		0.016	U
Pyrene	mg/Kg	18000	0.023	U	0.023	U	0.022	U	0.056	J
Metals										
Aluminum	mg/Kg	--	12.7		11		9.92		6.69	J
Antimony	mg/Kg	450	0.00028	U	0.00027	U	0.00027	U	0.00026	U
Arsenic	mg/Kg	19	0.0065	E	0.0048		0.0037		0.0017	
Barium	mg/Kg	59000	0.0699		0.065		0.0529		0.0204	BJ
Beryllium	mg/Kg	140	0.00047	BE	0.00049	B	0.00044	B	0.00047	B
Cadmium	mg/Kg	78	0.00082		0.00081		0.00071		0.000057	B
Calcium	mg/Kg	--	7.41		5.07		3.38		1.34	J
Chromium	mg/Kg	120000	0.0203		0.0181		0.0167		0.0166	J
Cobalt	mg/Kg	590	0.014		0.0117		0.0108		0.0056	B
Copper	mg/Kg	45000	0.023		0.0198		0.0176		0.0082	
Iron	mg/Kg	--	27.5	JE	27	J	23.6	J	12.9	J
Lead	mg/Kg	800	0.0135		0.0133		0.0124		0.0052	
Magnesium	mg/Kg	--	7.89	E	6.95		6.08		2.35	J
Manganese	mg/Kg	5900	0.579	E	0.657		0.497		0.134	J
Mercury	mg/Kg	65	0.00003	B	0.000031	B	0.000014	U	0.000019	B
Nickel	mg/Kg	23000	0.0296		0.0259		0.0232		0.011	
Potassium	mg/Kg	--	1.9		1.67		1.64		0.947	
Selenium	mg/Kg	5700	0.00023	U	0.00022	U	0.00022	U	0.00022	U
Silver	mg/Kg	5700	0.000087	U	0.000085	U	0.000083	U	0.000082	U
Sodium	mg/Kg	--	0.688		1.14		1.47		1.08	J
Thallium	mg/Kg	79	0.00051	B	0.00057	B	0.00043	B	0.00038	U
Vanadium	mg/Kg	1100	0.0267		0.0231		0.0208		0.0188	
Zinc	mg/Kg	110000	0.0607	JE	0.0553	J	0.0509	J	0.0287	J
Miscellaneous										
Percent Solids	%	--	76		77.5		79.5		80.8	

TABLE 4-3

ANALYTICAL RESULTS

DNAPL DELINEATION BORINGS

STANDARD CHLORINE SITE

KEARNY, NEW JERSEY

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
2. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
3. Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:
 - U - Not detected at the reporting limit indicated.
 - B - Analyte detected in associated method blank
 - J - Result is an estimate. Quantitated between the detection limit and the reporting limit.
 - E - Result is an estimate. Result is for diluted sample.

TABLE 4-4

ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-01 05/19/08 Fill Primary		BW-01 05/19/08 Mat Primary		BW-01 05/19/08 Sand Primary		BW-02 05/15/08 Fill Primary		BW-02 05/15/08 Mat Primary		BW-02 05/15/08 Sand Primary		BW-02 05/15/08 Clay Primary		BW-03 05/14/08 Fill Primary		BW-03 05/14/08 Mat Primary		BW-03 05/14/08 Sand Primary		BW-03 05/14/08 Clay Primary	
Sample Depth			0.0-7.0 ft		10.0-16.0 ft		18.0-21.0 ft		0.0-9.75 ft		10.0-12.0 ft		16.5-21.7 ft		24.0-26.0 ft		0.0-6.25 ft		10.0-12.0 ft		16.0-18.0 ft		22.0-24.0 ft	
VOC Sample Depth			6.5-7.5 ft		11.0-12.0 ft		19.0-20.0 ft		9.0-9.75 ft		10.0-11.0 ft		21.0-21.7 ft		25.0-26.0 ft		6.0-6.25 ft		11.0-12.0 ft		17.0-18.0 ft		23.0-24.0 ft	
Volatile Organics																								
1,1,1-Trichloroethane	mg/Kg	4200	0.0022	U	0.00066	U	0.0006	U	0.00058	U	0.0011	U	0.00058	U	0.00061	U	5.2	U	0.0037	U	0.00071	U	0.00064	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.0033	U	0.00098	U	0.00088	U	0.00085	U	0.0016	U	0.00086	U	0.0009	U	5.8	U	0.0055	U	0.0011	U	0.00094	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	6	0.0049	U	0.0015	U	0.0013	U	0.0013	U	0.0023	U	0.0013	U	0.0013	U	6.3	U	0.0082	U	0.0016	U	0.0014	U
1,1,2-Trichloroethane	mg/Kg	--	0.0038	U	0.0011	U	0.001	U	0.00099	U	0.0018	U	0.00099	U	0.001	U	5.4	U	0.0064	U	0.0012	U	0.0011	U
1,1-Dichloroethane	mg/Kg	24	0.0027	U	0.00078	U	0.00071	U	0.00068	U	0.0013	U	0.00069	U	0.00072	U	5	U	0.0044	U	0.00084	U	0.00075	U
1,1-Dichloroethene	mg/Kg	150	0.0039	U	0.0012	U	0.001	U	0.001	U	0.0019	U	0.001	U	0.0011	U	6	U	0.0065	U	0.0012	U	0.0011	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.007	J	0.0012	U	0.0011	U	0.001	U	0.0019	U	0.0011	U	0.0011	U	5.3	U	0.11		0.22		0.0046	J
1,2-Dibromoethane	mg/Kg	0.04	0.004	U	0.0012	U	0.0011	U	0.001	U	0.0019	U	0.001	U	0.0011	U	5.3	U	0.0066	U	0.0013	U	0.0011	U
1,2-Dichlorobenzene	mg/Kg	59000	0.0037	U	0.0011	U	0.00098	U	0.00095	U	0.0017	U	0.00095	U	0.001	U	5.6	U	0.022	J	0.12		0.001	U
1,2-Dichloroethane	mg/Kg	3	0.0028	U	0.00083	U	0.00075	U	0.00073	U	0.0013	U	0.00073	U	0.00077	U	5.6	U	0.0047	U	0.0009	U	0.0008	U
1,2-Dichloropropane	mg/Kg	5	0.0025	U	0.00074	U	0.00067	U	0.00064	U	0.0012	U	0.00065	U	0.00068	U	5.7	U	0.0042	U	0.00079	U	0.00071	U
1,3-Dichlorobenzene	mg/Kg	59000	0.003	U	0.00089	U	0.0008	U	0.00078	U	0.0014	U	0.00078	U	0.00082	U	5.4	U	0.043		0.13		0.00086	U
1,4-Dichlorobenzene	mg/Kg	13	0.0029	U	0.00087	U	0.00078	U	0.00076	U	0.0014	U	0.00076	U	0.0008	U	5.7	U	0.075		0.21		0.00083	U
2-Butanone	mg/Kg	44000	0.0041	U	0.0012	U	0.0011	U	0.001	U	0.0019	U	0.0074		0.0011	U	5	U	0.0068	U	0.0013	U	0.0012	U
2-Hexanone	mg/Kg	--	0.0032	U	0.00094	U	0.00085	U	0.00082	U	0.0015	U	0.00082	U	0.00086	U	4	U	0.0053	U	0.001	U	0.0009	U
4-Methyl-2-pentanone	mg/Kg	--	0.003	U	0.00089	U	0.0008	U	0.00077	U	0.0014	U	0.00078	U	0.00082	U	4.4	U	0.005	U	0.00095	U	0.00086	U
Acetone	mg/Kg	--	0.023	U	0.0068	U	0.0061	U	0.0059	U	0.048		0.029		0.0063	U	6.1	U	0.046	J	0.012	J	0.0066	U
Benzene	mg/Kg	5	0.0031	U	0.00092	U	0.00083	U	0.0015	J	0.0056	J	0.011		0.00084	U	5.3	U	0.016	J	0.0019	J	0.00088	U
Bromodichloromethane	mg/Kg	3	0.0026	U	0.00076	U	0.00069	U	0.00067	U	0.0012	U	0.00067	U	0.0007	U	5	U	0.0043	U	0.00082	U	0.00074	U
Bromoform	mg/Kg	280	0.002	U	0.0006	U	0.00054	U	0.00052	U	0.00097	U	0.00053	U	0.00055	U	5.2	U	0.0034	U	0.00065	U	0.00058	U
Bromomethane	mg/Kg	59	0.0034	U	0.001	U	0.00091	U	0.00088	U	0.0016	U	0.00088	U	0.00092	U	6.5	U	0.0057	U	0.0011	U	0.00097	U
Carbon disulfide	mg/Kg	110000	0.0024	U	0.0007	U	0.00063	U	0.00061	U	0.0011	U	0.00061	U	0.00064	U	6.3	U	0.0039	U	0.00075	U	0.00067	U
Carbon tetrachloride	mg/Kg	2	0.0021	U	0.00061	U	0.00055	U	0.00053	U	0.00098	U	0.00053	U	0.00056	U	4.6	U	0.0034	U	0.00065	U	0.00058	U
Chlorobenzene	mg/Kg	7400	0.0035	U	0.001	U	0.00093	U	0.0009	U	0.0017	U	0.0009	U	0.00095	U	5.7	U	0.0058	U	0.0048	J	0.00099	U
Chloroethane	mg/Kg	1100	0.0072	U	0.0021	U	0.0019	U	0.0018	U	0.0034	U	0.0018	U	0.0019	U	7.3	U	0.012	U	0.0023	U	0.002	U
Chloroform	mg/Kg	2	0.0027	U	0.00079	U	0.00072	U	0.00069	U	0.0013	U	0.0007	U	0.00073	U	5.4	U	0.0045	U	0.00086	U	0.00077	U
Chloromethane	mg/Kg	12	0.0039	U	0.0012	U	0.001	U	0.001	U	0.0019	U	0.001	U	0.0011	U	5.7	U	0.0065	U	0.0012	U	0.0011	U
cis-1,2-Dichloroethene	mg/Kg	560	0.0032	U	0.00096	U	0.00086	U	0.00083	U	0.0015	U	0.00084	U	0.00088	U	5.5	U	0.0054	U	0.001	U	0.00092	U
cis-1,3-Dichloropropene	mg/Kg	7	0.0031	U	0.00092	U	0.00083	U	0.0008	U	0.0015	U	0.00081	U	0.00085	U	4.6	U	0.0052	U	0.00099	U	0.00089	U
Cyclohexane	mg/Kg	--	0.0017	U	0.0005	U	0.00046	U	0.00044	U	0.00081	U	0.00044	U	0.00046	U	5.1	U	0.0029	U	0.00054	U	0.00049	U
Dibromochloromethane	mg/Kg	--	0.0033	U	0.00096	U	0.00087	U	0.00084	U	0.0016	U	0.00085	U	0.00089	U	4.7	U	0.0055	U	0.001	U	0.00093	U
Dibromochloropropane	mg/Kg	8	0.0035	U	0.001	U	0.00092	U	0.00089	U	0.0016	U	0.00089	U	0.00094	U	4.3	U	0.0058	U	0.0011	U	0.00098	U
Dichlorodifluoromethane	mg/Kg	230000	0.0031	U	0.0009	U	0.00082	U	0.00079	U	0.0015	U	0.00079	U	0.00083	U	6.5	U	0.0051	U	0.00097	U	0.00087	U
Ethylbenzene	mg/Kg	110000	0.003	U	0.00087	U	0.00079	U	0.00076	U	0.0014	U	0.00077	U	0.0008	U	6	U	0.0049	U	0.0015	J	0.00084	U
Isopropylbenzene	mg/Kg	--	0.0031	U	0.00092	U	0.00083	U	0.00081	U	0.0015	U	0.00081	U	0.00085	U	5.5	U	0.0052	U	0.00099	U	0.00089	U
Methyl acetate	mg/Kg	--	0.0042	U	0.0012	U	0.0011	U	0.0011	U	0.002	U	0.0011	U	0.0011	U	5.4	U	0.0069	U	0.0013	U	0.0012	U
Methylcyclohexane	mg/Kg	--	0.0033	U	0.00099	U	0.00089	U	0.00086	U	0.0016	U	0.00087	U	0.000									

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-01 05/19/08 Fill Primary		BW-01 05/19/08 Mat Primary		BW-01 05/19/08 Sand Primary		BW-02 05/15/08 Fill Primary		BW-02 05/15/08 Mat Primary		BW-02 05/15/08 Sand Primary		BW-02 05/15/08 Clay Primary		BW-03 05/14/08 Fill Primary		BW-03 05/14/08 Mat Primary		BW-03 05/14/08 Sand Primary		BW-03 05/14/08 Clay Primary	
Sample Depth			0.0-7.0 ft		10.0-16.0 ft		18.0-21.0 ft		0.0-9.75 ft		10.0-12.0 ft		16.5-21.7 ft		24.0-26.0 ft		0.0-6.25 ft		10.0-12.0 ft		16.0-18.0 ft		22.0-24.0 ft	
VOC Sample Depth			6.5-7.5 ft		11.0-12.0 ft		19.0-20.0 ft		9.0-9.75 ft		10.0-11.0 ft		21.0-21.7 ft		25.0-26.0 ft		6.0-6.25 ft		11.0-12.0 ft		17.0-18.0 ft		23.0-24.0 ft	
Semivolatile Organics																								
1,1'-Biphenyl	mg/Kg	34000	0.025	U	0.092	U	0.021	U	0.044	J	0.028	U	0.089	U	0.023	U	4.6	J	4.3	U	0.69	J	0.023	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.027	U	0.1	U	0.023	U	0.025	U	0.031	U	0.097	U	0.025	U	3	U	4.7	U	0.64	U	0.025	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.037	U	0.14	U	0.032	U	0.035	U	0.042	U	0.13	U	0.035	U	4.1	U	6.5	U	0.89	U	0.034	U
2,4,6-Trichlorophenol	mg/Kg	74	0.036	U	0.14	U	0.031	U	0.034	U	0.041	U	0.13	U	0.034	U	4	U	6.3	U	0.87	U	0.034	U
2,4-Dichlorophenol	mg/Kg	2100	0.013	U	0.05	U	0.011	U	0.012	U	0.015	U	0.048	U	0.013	U	1.5	U	2.3	U	0.32	U	0.012	U
2,4-Dimethylphenol	mg/Kg	14000	0.019	U	0.072	U	0.9		0.018	U	0.77		4.8		0.018	U	2.2	U	280		5.4	J	0.018	U
2,4-Dinitrophenol	mg/Kg	1400	0.53	U	2	U	0.45	U	0.5	U	0.6	U	1.9	U	0.5	U	59	U	93	U	13	U	0.49	U
2,4-Dinitrotoluene	mg/Kg	3	0.023	U	0.087	U	0.02	U	0.022	U	0.026	U	0.084	U	0.022	U	2.6	U	4.1	U	0.55	U	0.022	U
2,6-Dinitrotoluene	mg/Kg	3	0.029	U	0.11	U	0.025	U	0.027	U	0.033	U	0.1	U	0.027	U	3.2	U	5.1	U	0.69	U	0.027	U
2-Chloronaphthalene	mg/Kg	--	0.026	U	0.097	U	0.022	U	0.024	U	0.03	U	0.094	U	0.024	U	2.9	U	4.5	U	0.62	U	0.024	U
2-Chlorophenol	mg/Kg	2200	0.023	U	0.084	U	0.019	U	0.021	U	0.026	U	0.082	U	0.021	U	2.5	U	3.9	U	0.54	U	0.021	U
2-Methylnaphthalene	mg/Kg	2400	0.025	U	0.093	U	0.021	U	0.27	J	0.056	J	0.09	U	0.023	U	35	J	16	J	5.3	J	0.023	U
2-Methylphenol	mg/Kg	3400	0.028	U	0.1	U	2.4		0.031	J	0.032	U	6.2		0.026	U	3.1	U	180		3.2	J	0.026	U
2-Nitroaniline	mg/Kg	23000	0.027	U	0.1	U	0.023	U	0.025	U	0.031	U	0.098	U	0.025	U	3	U	4.7	U	0.65	U	0.025	U
2-Nitrophenol	mg/Kg	--	0.036	U	0.13	U	0.03	U	0.033	U	0.041	U	0.13	U	0.033	U	4	U	6.2	U	0.85	U	0.033	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.1	U	0.38	U	0.086	U	0.094	U	0.12	U	0.37	U	0.094	U	11	U	18	U	2.4	U	0.094	U
3-Nitroaniline	mg/Kg	--	0.039	U	0.14	U	0.033	U	0.036	U	0.044	U	0.14	U	0.036	U	4.3	U	6.7	U	0.92	U	0.036	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.32	U	1.2	U	0.27	U	0.3	U	0.36	U	1.1	U	0.3	U	35	U	55	U	7.6	U	0.29	U
4-Bromophenylphenyl ether	mg/Kg	--	0.02	U	0.075	U	0.017	U	0.019	U	0.023	U	0.073	U	0.019	U	2.3	U	3.5	U	0.48	U	0.019	U
4-Chloro-3-methylphenol	mg/Kg	--	0.027	U	0.1	U	0.023	U	0.026	U	0.031	U	0.099	U	0.026	U	3.1	U	4.8	U	0.65	U	0.025	U
4-Chloroaniline	mg/Kg	--	0.022	U	0.083	U	0.019	U	0.021	U	0.025	U	0.08	U	0.021	U	2.5	U	3.9	U	0.53	U	0.021	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.039	U	0.14	U	0.033	U	0.036	U	0.044	U	0.14	U	0.036	U	4.3	U	6.8	U	0.92	U	0.036	U
4-Methylphenol	mg/Kg	340	0.028	U	0.1	U	11		0.08	J	0.032	U	29		0.026	U	8.8	J	490		13		0.026	U
4-Nitroaniline	mg/Kg	--	0.019	U	0.07	U	0.016	U	0.018	U	0.022	U	0.068	U	0.018	U	2.1	U	3.3	U	0.45	U	0.018	U
4-Nitrophenol	mg/Kg	--	0.035	U	0.13	U	0.03	U	0.033	U	0.04	U	0.13	U	0.033	U	3.9	U	6.1	U	0.84	U	0.032	U
Acenaphthene	mg/Kg	37000	0.023	U	0.087	U	0.02	U	0.12	J	0.027	U	0.084	U	0.022	U	11	J	4.1	U	2.3	J	0.022	U
Acenaphthylene	mg/Kg	300000	0.026	U	0.097	U	0.022	U	0.044	J	0.03	U	0.094	U	0.024	U	2.9	U	4.6	U	0.62	U	0.024	U
Acetophenone	mg/Kg	5	0.027	U	0.1	U	0.023	U	0.025	U	0.031	U	0.099	U	0.025	U	3	U	4.8	U	0.65	U	0.025	U
Anthracene	mg/Kg	30000	0.046	J	0.095	U	0.022	U	0.1	J	0.029	U	0.092	U	0.024	U	5.9	J	4.6	J	1.5	J	0.024	U
Atrazine	mg/Kg	2400	0.031	U	0.12	U	0.026	U	0.029	U	0.035	U	0.11	U	0.029	U	3.5	U	5.4	U	0.74	U	0.029	U
Benzaldehyde	mg/Kg	68000	0.048	U	0.18	U	0.041	U	0.044	U	0.054	U	0.17	U	0.045	U	5.3	U	8.3	U	1.1	U	0.044	U
Benzo(a)anthracene	mg/Kg	2	0.19	J	0.066	U	0.015	U	0.14	J	0.02	U	0.064	U	0.017	U	2	U	3.1	U	0.42	U	0.016	U
Benzo(a)pyrene	mg/Kg	0.2	0.19	J	0.052	U	0.012	U	0.14	J	0.016	U	0.05	U	0.013	U	1.5	J	2.4	U	0.33	U	0.013	U
Benzo(b)fluoranthene	mg/Kg	2	0.31	J	0.064	U	0.015	U	0.22	J	0.02	U	0.062	U	0.016	U	2.3	J	3	U	0.41	U	0.016	U
Benzo(ghi)perylene	mg/Kg	30000	0.13	J	0.057	U	0.013	U	0.11	J	0.017	U	0.055	U	0.014	U	1.7	U	2.7	U	0.37	U	0.014	U
Benzo(k)fluoranthene	mg/Kg	23	0.014	U	0.054	U	0.012	U	0.013	U	0.016	U	0.052	U	0.013	U	1.6	U	2.5	U	0.34	U	0.013	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.021	U	0.078	U	0.018	U	0.02	U	0.024	U	0.076	U	0.02	U	2.3	U	3.7	U	0.5	U	0.019	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.01	U	0.038	U	0.0086	U	0.0094	U	0.012	U	0.037	U	0.0094	U	1.1	U	1.8	U	0.24	U	0.0094	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.035	U	0.13	U	0.029	U	0.032	U	0.039	U	0.12	U	0.032	U	3.8	U	6	U	0.82	U	0.032	U
Butyl benzyl phthalate	mg/Kg	14000	0.036	U	0.13	U	0.031	U	0.034	U	0.041	U	0.13	U	0.034	U	4	U	6.3	U	0.86	U	0.033	U
Caprolactam	mg/Kg	340000	0.085	U	0.32	U	0.072	U	0.079	U	0.097	U	0.31	U	0.079	U	9.5	U	15	U	2	U	0.079	U
Carbazole	mg/Kg	96	0.025	J	0.069	U	0.016	U	0.088	J	0.021	U	0.067	U	0.017	U	7	J	4.7	J	1.2	J	0.017	U
Chrysene	mg/Kg	230	0.19	J	0.066	U	0.015	U	0.14	J	0.02	U	0.064	U	0.017	U	2	U	3.1	U	0.43	U	0.017	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.036	J	0.11	U	0.024	U	0.027	U	0.032	U	0.1	U	0.027									

TABLE 4-4

ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-01 05/19/08 Fill Primary		BW-01 05/19/08 Mat Primary		BW-01 05/19/08 Sand Primary		BW-02 05/15/08 Fill Primary		BW-02 05/15/08 Mat Primary		BW-02 05/15/08 Sand Primary		BW-02 05/15/08 Clay Primary		BW-03 05/14/08 Fill Primary		BW-03 05/14/08 Mat Primary		BW-03 05/14/08 Sand Primary		BW-03 05/14/08 Clay Primary	
Sample Depth			0.0-7.0 ft		10.0-16.0 ft		18.0-21.0 ft		0.0-9.75 ft		10.0-12.0 ft		16.5-21.7 ft		24.0-26.0 ft		0.0-6.25 ft		10.0-12.0 ft		16.0-18.0 ft		22.0-24.0 ft	
VOC Sample Depth			6.5-7.5 ft		11.0-12.0 ft		19.0-20.0 ft		9.0-9.75 ft		10.0-11.0 ft		21.0-21.7 ft		25.0-26.0 ft		6.0-6.25 ft		11.0-12.0 ft		17.0-18.0 ft		23.0-24.0 ft	
Semivolatile Organics (Continued)																								
Fluoranthene	mg/Kg	24000	0.38	J	0.11	U	0.025	U	0.41	J	0.033	U	0.1	U	0.027	U	4.8	J	5.1	U	0.69	U	0.027	U
Fluorene	mg/Kg	24000	0.022	U	0.081	U	0.019	U	0.16	J	0.025	U	0.079	U	0.02	U	8.2	J	3.8	U	1.2	J	0.02	U
Hexachlorobenzene	mg/Kg	1	0.027	U	0.1	U	0.023	U	0.025	U	0.031	U	0.098	U	0.025	U	3	U	4.7	U	0.65	U	0.025	U
Hexachlorobutadiene	mg/Kg	25	0.028	U	0.1	U	0.023	U	0.026	U	0.031	U	0.099	U	0.026	U	3.1	U	4.8	U	0.66	U	0.025	U
Hexachlorocyclopentadiene	mg/Kg	110	0.021	U	0.077	U	0.018	U	0.019	U	0.024	U	0.075	U	0.019	U	2.3	U	3.6	U	0.49	U	0.019	U
Hexachloroethane	mg/Kg	140	0.02	U	0.075	U	0.017	U	0.019	U	0.023	U	0.073	U	0.019	U	2.2	U	3.5	U	0.48	U	0.019	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.11	J	0.059	U	0.014	U	0.074	J	0.018	U	0.058	U	0.015	U	1.8	U	2.8	U	0.38	U	0.015	U
Isophorone	mg/Kg	2000	0.025	U	0.093	U	0.021	U	0.023	U	0.028	U	0.09	U	0.023	U	2.8	U	4.4	U	0.6	U	0.023	U
Naphthalene	mg/Kg	17	0.91		0.6	J	0.019	U	3.4		1.9		0.079	U	0.02	U	2000		2000		270		0.02	U
Nitrobenzene	mg/Kg	340	0.011	U	0.042	U	0.0095	U	0.01	U	0.013	U	0.04	U	0.01	U	1.2	U	2	U	0.27	U	0.01	U
N-Nitrosodiphenylamine	mg/Kg	390	0.024	U	0.091	U	0.021	U	0.023	U	0.028	U	0.088	U	0.023	U	2.7	U	4.3	U	0.58	U	0.023	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.011	U	0.041	U	0.0094	U	0.01	U	0.013	U	0.04	U	0.01	U	1.2	U	1.9	U	0.26	U	0.01	U
Pentachlorophenol	mg/Kg	10	0.034	U	0.12	U	0.028	U	0.031	U	0.038	U	0.12	U	0.031	U	3.7	U	5.8	U	0.8	U	0.031	U
Phenanthrene	mg/Kg	300000	0.31	J	0.08	U	0.018	U	0.51		0.041	J	0.078	U	0.02	U	18	J	8	J	2.3	J	0.02	U
Phenol	mg/Kg	210000	0.027	U	0.1	U	51		0.025	U	0.031	U	20		0.025	U	3	U	65	J	5.2	J	0.025	U
Pyrene	mg/Kg	18000	0.34	J	0.1	U	0.023	U	0.31	J	0.031	U	0.099	U	0.026	U	3.1	U	4.8	U	0.66	U	0.025	U
Polychlorinated Dioxins/Furans																								
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.0089		0.0011	QJ	0.00035	J	0.0042	J	0.0037	J	0.0002	QJ	--		0.059		0.012	Q	0.0065	U	--	
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	1.5		0.023	J	0.013		0.025		0.00053	QJ	0.002	J	--		0.98		0.23		0.012		--	
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.055		0.0017	J	0.00041	QJ	0.00079	J	0.0077	U	0.0061	U	--		0.035		0.0086	Q	0.0065	U	--	
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.00079	J	0.025	U	0.0058	U	0.0063	U	0.0077	U	0.0061	U	--		0.0039	J	0.032	U	0.0065	U	--	
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.55		0.0084	J	0.0043	J	0.0091	Q	0.0077	U	0.00056	J	--		0.35	Q	0.11	Q	0.0051	J	--	
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0025	J	0.025	U	0.0058	U	0.0063	U	0.0077	U	0.0061	U	--		0.013		0.032	U	0.0065	U	--	
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.1	Q	0.0015	QJ	0.00064	QJ	0.0013	J	0.0077	U	0.00019	J	--		0.046		0.015	Q	0.00069	QJ	--	
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.001	J	0.025	U	0.0058	U	0.0063	U	0.0077	U	0.0061	U	--		0.0062	J	0.032	U	0.0065	U	--	
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.00088	Q	0.025	U	0.0058	U	0.0063	U	0.0077	U	0.0061	U	--		0.01	U	0.032	U	0.0065	U	--	
1,2,3,7,8-PCDD	ug/Kg	--	0.0011	QJ	0.025	U	0.0058	U	0.0063	U	0.0077	U	0.0061	U	--		0.0057	J	0.032	U	0.0065	U	--	
1,2,3,7,8-PCDF	ug/Kg	--	0.014		0.025	U	0.0058	U	0.00029	J	0.0077	U	0.0061	U	--		0.0068	J	0.0018	Q	0.0065	U	--	
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.028		0.00068	QJ	0.00023	J	0.00044	QJ	0.0077	U	0.0061	U	--		0.017		0.0047	J	0.0065	U	--	
2,3,4,7,8-PCDF	ug/Kg	--	0.046		0.00083	QJ	0.00022	QJ	0.00077	J	0.0077	U	0.0061	U	--		0.039	Q	0.011	J	0.00055	QJ	--	
2,3,7,8-TCDD	ug/Kg	--	0.00016	QJ	0.0051	U	0.0012	U	0.0013		0.0015	U	0.0012	U	--		0.00093	QJ	0.0065	U	0.0013	U	--	
2,3,7,8-TCDF	ug/Kg	--	0.003	Q	0.0014	QJ	0.00027	QJ	0.00054	QJ	0.00016	QJ	0.0012	U	--		0.0061		0.004	Q	0.00074	QJ	--	
OCDD	ug/Kg	--	0.16		0.027	J	0.0042	J	0.13		0.13		0.0019	J	--		3.5	B	0.34	B	0.014	B	--	
OCDF	ug/Kg	--	3.3		0.066		0.029		0.048		0.00092	J	0.009	J	--		1.5		0.28		0.016		--	
Total HpCDD	ug/Kg	--	0.022		0.004	QJ	0.001	QJ	0.031		0.012		0.00061	QJ	--		0.13		0.028	J	0.0015	QJ	--	
Total HpCDF	ug/Kg	--	1.7	Q	0.03	QJ	0.016	Q	0.03	Q	0.00053	QJ	0.0023	QJ	--		1.2		0.28	Q	0.013	Q	--	
Total HxCDD	ug/Kg	--	0.016	J	0.025	U	0.0015	QJ	0.0027	QJ	0.0028	J	0.00048	QJ	--		0.077	Q	0.012	Q	0.0019	QJ	--	
Total HxCDF	ug/Kg	--	1.3	Q	0.019	QJ	0.009	QJ	0.02	Q	0.00025	J	0.0013	J	--		0.78	Q	0.24	Q	0.011	QJ	--	
Total PeCDD	ug/Kg	--	0.013	QJ	0.025	U	0.0014	QJ	0.00026	J	0.00043	QJ	0.00034	J	--		0.23	Q	0.03	Q	0.0024	QJ	--	
Total PeCDF	ug/Kg	--	0.55	Q	0.005	QJ	0.0029	QJ	0.012	QJ	0.00026	J	0.0061	U	--		0.43	Q	0.12	J	0.0033	QJ	--	
Total TCDD	ug/Kg	--	0.012	Q	0.0028	QJ	0.00079	QJ	0.0024	Q	0.00096	QJ	0.0012	U	--		0.068	Q	0.028	Q	0.0027	Q	--	
Total TCDF	ug/Kg	--	0.23	Q	0.0047	QJ	0.001	QJ	0.0081	Q	0.002	QJ	0.0012	U	--		0.3	Q	0.063	Q	0.0014	QJ	--	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																								
1,2,3,4,6,7,8-HpCDD	0.01	--	8.90E-05		--		3.50E-06		4.20E-05		3.70E-05		--		--		5.90E-04		--		--		--	
1,2,3,4,6,7,8-HpCDF	0.01	--	1.50E-02		2.30E-04		1.30E-04		2.50E-04		--		2.00E-05		--		9.80E-03		2.30E-03		1.20E-04		--	
1,2,3,4,7,8,9-HpCDF	0.01	--	5.50E-04		1.70E-05		--		7.90E-06		--		--		--		3.50E-04		--		--		--	
1,2,3,4,7,8-HxCDD	0.10	--	7.90E-05		--		--		--		--		--		--		3.90E-04		--		--		--	
1,2,3,4,7,8-HxCDF	0.10	--	5.50E-02		8.40E-04		4.30E-04		--		--		5.60E-05		--		--		--		5.10E-04		--	
1,2,3,6,7,8-HxCDD	0.10	--	2.50E-04		--		--		--		--		--		--		1.30E-03		--		--		--	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-01 05/19/08 Fill Primary	BW-01 05/19/08 Mat Primary	BW-01 05/19/08 Sand Primary	BW-02 05/15/08 Fill Primary	BW-02 05/15/08 Mat Primary	BW-02 05/15/08 Sand Primary	BW-02 05/15/08 Clay Primary	BW-03 05/14/08 Fill Primary	BW-03 05/14/08 Mat Primary	BW-03 05/14/08 Sand Primary	BW-03 05/14/08 Clay Primary											
Sample Depth			0.0-7.0 ft	10.0-16.0 ft	18.0-21.0 ft	0.0-9.75 ft	10.0-12.0 ft	16.5-21.7 ft	24.0-26.0 ft	0.0-6.25 ft	10.0-12.0 ft	16.0-18.0 ft	22.0-24.0 ft											
VOC Sample Depth			6.5-7.5 ft	11.0-12.0 ft	19.0-20.0 ft	9.0-9.75 ft	10.0-11.0 ft	21.0-21.7 ft	25.0-26.0 ft	6.0-6.25 ft	11.0-12.0 ft	17.0-18.0 ft	23.0-24.0 ft											
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continued)																								
1,2,3,6,7,8-HxCDF	0.10	--	--		--		--		1.30E-04		--		1.90E-05		--		4.60E-03		--		--		--	
1,2,3,7,8,9-HxCDD	0.10	--	1.00E-04		--		--		--		--		--		--		6.20E-04		--		--		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDD	1.00	--	--		--		--		--		--		--		--		5.70E-03		--		--		--	
1,2,3,7,8-PCDF	0.05	--	7.00E-04		--		--		1.45E-05		--		--		--		3.40E-04		--		--		--	
2,3,4,6,7,8-HxCDF	0.10	--	2.80E-03		--		2.30E-05		--		--		--		--		1.70E-03		4.70E-04		--		--	
2,3,4,7,8-PCDF	0.50	--	2.30E-02		--		--		3.85E-04		--		--		--		--		5.50E-03		--		--	
2,3,7,8-TCDD	1.00	--	--		--		--		1.30E-03		--		--		--		--		--		--		--	
2,3,7,8-TCDF	0.10	--	--		--		--		--		--		--		--		6.10E-04		--		--		--	
OCDD	0.0001	--	1.60E-05		2.70E-06		4.20E-07		1.30E-05		1.30E-05		1.90E-07		--		3.50E-04		3.40E-05		1.40E-06		--	
OCDF	0.0001	--	3.30E-04		6.60E-06		2.90E-06		4.80E-06		9.20E-08		9.00E-07		--		1.50E-04		2.80E-05		1.60E-06		--	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	9.79E-02		1.10E-03		5.90E-04		2.15E-03		5.01E-05		9.61E-05		--		2.65E-02		8.33E-03		6.33E-04		--	
Polychlorinated Biphenyls (Aroclors)																								
Aroclor 1016	mg/Kg	1	0.0034	U	0.012	U	0.0029	U	0.0031	U	0.0038	U	0.003	U	--		0.0038	U	0.012	U	0.0032	U	--	
Aroclor 1221	mg/Kg	1	0.0043	U	0.016	U	0.0037	U	0.004	U	0.0049	U	0.0039	U	--		0.0048	U	0.015	U	0.0041	U	--	
Aroclor 1232	mg/Kg	1	0.0039	U	0.014	U	0.0033	U	0.0036	U	0.0044	U	0.0035	U	--		0.0043	U	0.014	U	0.0037	U	--	
Aroclor 1242	mg/Kg	1	0.0037	U	0.014	U	0.0032	U	0.0034	U	0.0042	U	0.0033	U	--		0.0041	U	0.013	U	0.0035	U	--	
Aroclor 1248	mg/Kg	1	0.0021	U	0.0079	U	0.0018	U	0.002	U	0.0024	U	0.0019	U	--		0.052		0.0076	U	0.002	U	--	
Aroclor 1254	mg/Kg	1	0.0032	U	0.012	U	0.0028	U	0.003	U	0.0037	U	0.0029	U	--		0.0036	U	0.011	U	0.003	U	--	
Aroclor 1260	mg/Kg	1	0.0032	U	0.012	U	0.0028	U	0.003	U	0.0037	U	0.0029	U	--		0.022	JP	0.011	U	0.003	U	--	
Aroclor 1262	mg/Kg	1	0.005	U	0.018	U	0.0042	U	0.0046	U	0.0056	U	0.0044	U	--		0.0055	U	0.018	U	0.0047	U	--	
Aroclor 1268	mg/Kg	1	0.0029	U	0.011	U	0.0025	U	0.0027	U	0.0033	U	0.0026	U	--		0.0032	U	0.01	U	0.0027	U	--	
Metals																								
Aluminum	mg/Kg	--	18200		2990		3700		16000		11900		3110		10100		27600	J	10800	J	839	J	8790	J
Antimony	mg/Kg	450	1.2	U	1.1	BJ	0.24	BJ	1.2	U	0.14	U	0.11	U	0.12	U	1.4	U	1.1	B	0.12	U	0.12	U
Arsenic	mg/Kg	19	3.1	U	2.3	B	4.2		2.9	U	37.2		1.5		4.5		3.5	U	1.2	B	1	B	4.5	
Barium	mg/Kg	59000	45.9		12	B	23	B	57.1		43		20	B	113		132		15.9	B	19.3	B	29.6	
Beryllium	mg/Kg	140	0.042	U	0.39	B	0.24	B	0.039	U	0.59	B	0.32	B	0.73		0.047	U	0.81	B	0.066	B	0.67	
Cadmium	mg/Kg	78	0.42	B	0.25	B	0.055	U	1.1		0.75	B	0.08	B	0.67		2.1		0.36	B	0.061	U	0.5	B
Calcium	mg/Kg	--	109000		8220		1710		94600		2180		952		4680		239000		16600		2500		3110	
Chromium ⁽³⁾	mg/Kg	120000	15900		55.7		33.5		14100	J	342	J	20.3	J	18.3	J	25200	J	1070	J	102	J	13.7	J
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	3820		0.4	U	3.3		2100		50.2		0.4	U	0.4	U	2830		12.4		4.5		0.4	U
Cobalt	mg/Kg	590	55.9		4.2	B	6.1		48.2		6.1	B	2.3	B	10.3		122		7.3	B	1.6	B	10	
Copper	mg/Kg	45000	21.4		6.3	B	28.2		19.8		16		5		22.1		21.4		4.6	B	1.4	B	16.8	
Iron	mg/Kg	--	45500		10600		8560		39300		35300		5930		27700		57200		13700		2050		19800	
Lead	mg/Kg	800	101	J	6.4	J	2.4	J	88.9		19.7		3.7		12.4		110		125		8.8		10.3	
Magnesium	mg/Kg	--	17400		6640		1790		14600		4250		652		7160		37400		3560		299	B	5790	
Manganese	mg/Kg	5900	457		254		71.6		458		270		48.1		557		915	J	166	J	19.3	J	429	J
Mercury	mg/Kg	65	0.12		0.056	B	0.0083	U	0.2		0.054		0.016	B	0.022	B	1.3		3		0.099		0.02	B
Nickel	mg/Kg	23000	175		6.1	B	13		145	J	17.8	J	4.7	BJ	22.4	J	583	J	50.6	J	4.2	BJ	20.2	J
Potassium	mg/Kg	--	515	B	815	B	497	B	751		2050		473	B	1530		292	B	500	B	372	B	1300	
Selenium	mg/Kg	5700	0.39	U	1.5	U	0.33	U	0.36	U	0.98		0.35	U	0.42	B	0.43	U	1.6	B	0.37	U	0.36	U
Silver	mg/Kg	5700	0.2	BJ	0.35	BJ	0.051	BJ	0.23	B	0.11	B	0.045	U	0.14	B	0.46	BJ	0.22	BJ	0.067	BJ	0.19	BJ
Sodium	mg/Kg	--	1080	E	13000		608		882		2150		553	B	1340		956		2920		208	B	1250	
Thallium	mg/Kg	79	6.1		1.6	U	0.37	U	4.5		0.84	B	0.39	U	0.41	U	9.4		1.5	U	0.42	U	0.41	B
Vanadium	mg/Kg	1100	295		11.8	B	14.7		280		29.1		9.5		22.6		513		28.7		4.4	B	16.1	
Zinc	mg/Kg	110000	197		23		24.2		167		68.1		9.5		60		211	J	29.8	J	5	J	55.1	J

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-01 05/19/08 Fill Primary		BW-01 05/19/08 Mat Primary		BW-01 05/19/08 Sand Primary		BW-02 05/15/08 Fill Primary		BW-02 05/15/08 Mat Primary		BW-02 05/15/08 Sand Primary		BW-02 05/15/08 Clay Primary		BW-03 05/14/08 Fill Primary		BW-03 05/14/08 Mat Primary		BW-03 05/14/08 Sand Primary		BW-03 05/14/08 Clay Primary	
Sample Depth			0.0-7.0 ft		10.0-16.0 ft		18.0-21.0 ft		0.0-9.75 ft		10.0-12.0 ft		16.5-21.7 ft		24.0-26.0 ft		0.0-6.25 ft		10.0-12.0 ft		16.0-18.0 ft		22.0-24.0 ft	
VOC Sample Depth			6.5-7.5 ft		11.0-12.0 ft		19.0-20.0 ft		9.0-9.75 ft		10.0-11.0 ft		21.0-21.7 ft		25.0-26.0 ft		6.0-6.25 ft		11.0-12.0 ft		17.0-18.0 ft		23.0-24.0 ft	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																								
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--		0.035	U	0.035	U	0.035	U	--	
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	--		0.026	U	0.026	U	0.026	U	--	
1,4-Dichlorobenzene	mg/L	7.5	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	--		0.0046	U	0.0046	U	0.047	J	--	
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	--		0.0041	U	0.0041	U	0.0041	U	--	
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	--		0.0026	U	0.0026	U	0.0026	U	--	
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	--		0.0028	U	0.0028	U	0.0028	U	--	
2-Butanone	mg/L	200	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	--		0.029	U	0.029	U	0.029	U	--	
Benzene	mg/L	0.5	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	--		0.033	U	0.033	U	0.033	U	--	
Carbon Tetrachloride	mg/L	0.5	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	--		0.037	U	0.037	U	0.037	U	--	
Chlorobenzene	mg/L	100	0.028	U	0.028	U	0.029	J	0.028	U	0.028	U	0.028	U	--		0.028	U	0.028	U	0.028	U	--	
Chloroform	mg/L	6	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	--		0.031	U	0.031	U	0.031	U	--	
Cresols	mg/L	200	0.0089	U	0.0089	U	1.6		0.0089	U	0.0089	U	0.86		--		0.26		5.6		0.44		--	
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	--		0.0049	U	0.0049	U	0.0049	U	--	
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	--		0.0033	U	0.0033	U	0.0033	U	--	
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	--		0.0036	U	0.0036	U	0.0036	U	--	
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	--		0.0056	U	0.0056	U	0.0056	U	--	
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	--		0.005	U	0.005	U	0.005	U	--	
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	--		0.011	U	0.011	U	0.011	U	--	
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	--		0.023	U	0.023	U	0.023	U	--	
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--		0.035	U	0.035	U	0.035	U	--	
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	--		0.038	U	0.038	U	0.038	U	--	
Arsenic	mg/L	5	0.16	B	0.15	B	0.18	B	0.15	B	0.24	B	0.15	B	--		0.18	B	0.17	B	0.15	B	--	
Barium	mg/L	100	0.24	B	0.018	B	0.065	B	0.35	B	0.034	B	0.15	B	--		0.19	BJ	0.088	B	0.15	B	--	
Cadmium	mg/L	1	0.0012	U	0.0012	U	0.0024	B	0.0012	U	0.0012	U	0.0012	U	--		0.0012	U	0.0012	U	0.0012	U	--	
Chromium	mg/L	5	14.6		0.019	B	0.16	B	4.8		0.031	B	0.038	B	--		43.5	J	0.15	B	0.13	B	--	
Lead	mg/L	5	0.013	U	0.013	U	0.013	U	0.013	U	0.013	U	0.013	U	--		0.013	U	0.034	B	0.023	B	--	
Mercury	mg/L	0.2	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	--		0.000064	B	0.000055	U	0.000055	U	--	
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	--		0.033	B	0.015	U	0.015	U	--	
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0033	B	0.0025	U	--		0.0025	U	0.0025	U	0.0025	U	--	
RCRA Characteristics and Indicators																								
Corrosivity (pH)	SU	2<pH<12.5	12.51		7.53		4.12		12.81		8.26		4.34		--		12.45		7.55		5.64		--	
Cyanide	mg/Kg	23000	0.43	B	0.48	U	0.11	U	3.4	J	0.39	BJ	0.13	BJ	--		1.8	J	2	B	0.32	BJ	--	
Total Sulfide (Reactivity)	mg/Kg	--	16.7	U	80.8	B	27.9	B	20.2	B	1110		29.4	B	--		18.6	U	767		41.4		--	
Ignitability	None	--	No		No		No		No		--		No		--		No		No		No		--	
Oxidation Reduction Potential	mV	--	312		381		419		288		200		435		422		--		--		--		--	
Percent Solids	%	--	73.6		19.8		85.9		79.2		64.8		81.7		79		66.1		20.9		77.2		78.8	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-04 05/08/08 Fill Primary		BW-04 05/08/08 Mat Primary		BW-04 05/08/08 Sand Primary		BW-04 05/09/08 Clay Primary		BW-16 05/05/08 Fill Primary		BW-16 05/05/08 Fill Duplicate		BW-16 05/05/08 Mat Primary		BW-16 05/05/08 Sand Primary		BW-17 07/23/08 Fill Primary		BW-17 07/24/08 Mat Primary		BW-17 07/24/08 Mat Duplicate	
Sample Depth			0.0-6.33 ft		6.33-8.0 ft		14.0-20.0 ft		30.0-32.0 ft		0.0-11.5 ft		0.0-11.5 ft		11.5-12.5 ft		13.5-19.5 ft		0.0-7.25 ft		10.0-13.0 ft		10.0-13.0 ft	
VOC Sample Depth			6.0-6.33 ft		7.0-8.0 ft		18.0-19.0 ft		31.0-32.0 ft		10.0-11.0 ft		10.0-11.0 ft		11.5-12.5 ft		19.0-20.0 ft		7.0.0-7.25 ft		12.0-13.0 ft		12.0-13.0 ft	
Volatile Organics																								
1,1,1-Trichloroethane	mg/Kg	4200	0.081	U	0.0019	U	2.3	U	0.0014	U	0.001	U	0.0011	U	0.0035	U	0.0011	U	0.00049	U	0.058	U	0.00077	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.09	U	0.0021	U	2.6	U	0.0015	U	0.0011	U	0.0013	U	0.0039	U	0.0012	U	0.00072	U	0.064	U	0.0011	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	6	0.098	U	0.0022	U	2.8	U	0.0016	U	0.0012	U	0.0014	U	0.0042	U	0.0014	U	0.00083	U	0.061	U	0.0013	U
1,1,2-Trichloroethane	mg/Kg	--	0.085	U	0.0019	U	2.5	U	0.0014	U	0.0011	U	0.0012	U	0.0036	U	0.0012	U	0.0011	U	0.07	U	0.0017	U
1,1-Dichloroethane	mg/Kg	24	0.078	U	0.0018	U	2.2	U	0.0013	U	0.00096	U	0.0011	U	0.0033	U	0.0011	U	0.00058	U	0.055	U	0.00091	U
1,1-Dichloroethene	mg/Kg	150	0.093	U	0.0021	U	2.7	U	0.0016	U	0.0012	U	0.0013	U	0.004	U	0.0013	U	0.00085	U	0.067	U	0.0013	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.082	J	0.0019	U	270		0.0014	U	0.001	U	0.0036	J	0.0035	U	0.0011	U	0.00088	U	0.059	U	0.0014	U
1,2-Dibromoethane	mg/Kg	0.04	0.083	U	0.0019	U	2.4	U	0.0014	U	0.001	U	0.0012	U	0.0035	U	0.0011	U	0.00087	U	0.059	U	0.0014	U
1,2-Dichlorobenzene	mg/Kg	59000	0.088	U	0.002	U	120		0.0015	U	0.0011	U	0.018		0.0037	U	0.013		0.0008	U	0.37		0.033	
1,2-Dichloroethane	mg/Kg	3	0.087	U	0.002	U	2.5	U	0.0015	U	0.0011	U	0.0012	U	0.0037	U	0.0012	U	0.00062	U	0.062	U	0.00097	U
1,2-Dichloropropane	mg/Kg	5	0.088	U	0.002	U	2.6	U	0.0015	U	0.0011	U	0.0012	U	0.0038	U	0.0012	U	0.00054	U	0.063	U	0.00086	U
1,3-Dichlorobenzene	mg/Kg	59000	0.084	U	0.0019	U	39		0.0014	U	0.001	U	0.0052	J	0.0036	U	0.018		0.00066	U	0.27	J	0.025	
1,4-Dichlorobenzene	mg/Kg	13	0.55		0.002	U	43		0.0015	U	0.0011	J	0.013		0.0038	U	0.033		0.0011	J	0.49		0.046	
2-Butanone	mg/Kg	44000	0.077	U	0.0018	U	2.2	U	0.0013	U	0.00096	U	0.0011	U	0.0033	U	0.0011	U	0.00088	U	0.055	U	0.0014	U
2-Hexanone	mg/Kg	--	0.063	U	0.0014	U	1.8	U	0.0011	U	0.00078	U	0.00089	U	0.0027	U	0.00087	U	0.00069	U	0.045	U	0.0011	U
4-Methyl-2-pentanone	mg/Kg	--	0.069	U	0.0016	U	2	U	0.0012	U	0.00086	U	0.00097	U	0.003	U	0.00095	U	0.00065	U	0.068	U	0.001	U
Acetone	mg/Kg	--	0.095	U	0.0091	U	2.7	U	0.009	J	0.0049	U	0.006	J	0.017	U	0.0077	J	0.054		0.068	U	0.0079	U
Benzene	mg/Kg	5	0.083	U	0.0035	J	2.4	U	0.0014	U	0.001	U	0.0012	U	0.0035	U	0.0011	U	0.00068	U	0.059	U	0.0011	U
Bromodichloromethane	mg/Kg	3	0.077	U	0.0018	U	2.2	U	0.0013	U	0.00096	U	0.0011	U	0.0033	U	0.0011	U	0.00056	U	0.055	U	0.00088	U
Bromoform	mg/Kg	280	0.081	U	0.0019	U	2.3	U	0.0014	U	0.001	U	0.0011	U	0.0035	U	0.0011	U	0.00044	U	0.058	U	0.0007	U
Bromomethane	mg/Kg	59	0.1	U	0.0023	U	2.9	U	0.0017	U	0.0012	U	0.0014	U	0.0043	U	0.0014	U	0.00074	U	0.072	U	0.0012	U
Carbon disulfide	mg/Kg	110000	0.098	U	0.0022	U	2.8	U	0.0016	U	0.0012	U	0.0014	U	0.0042	U	0.0013	U	0.00051	U	0.07	U	0.00081	U
Carbon tetrachloride	mg/Kg	2	0.071	U	0.0016	U	2.1	U	0.0012	U	0.00088	U	0.001	U	0.003	U	0.00098	U	0.00045	U	0.051	U	0.0007	U
Chlorobenzene	mg/Kg	7400	1.7		0.18		4.8	J	0.0015	U	0.021		0.03		0.019		0.023		0.014		0.13	J	0.015	
Chloroethane	mg/Kg	1100	0.11	U	0.0026	U	3.3	U	0.0019	U	0.0014	U	0.0016	U	0.0049	U	0.0016	U	0.0016	U	0.082	U	0.0024	U
Chloroform	mg/Kg	2	0.084	U	0.0019	U	2.4	U	0.0014	U	0.001	U	0.0012	U	0.0036	U	0.0012	U	0.00059	U	0.06	U	0.00092	U
Chloromethane	mg/Kg	12	0.088	U	0.002	U	2.6	U	0.0015	U	0.0011	U	0.0012	U	0.0038	U	0.0012	U	0.00085	U	0.063	U	0.0013	U
cis-1,2-Dichloroethene	mg/Kg	560	0.086	U	0.002	U	2.5	U	0.0014	U	0.0011	U	0.0012	U	0.0037	U	0.0012	U	0.00071	U	0.061	U	0.0011	U
cis-1,3-Dichloropropene	mg/Kg	7	0.071	U	0.0016	U	2.1	U	0.0012	U	0.00088	U	0.001	U	0.0031	U	0.00099	U	0.00068	U	0.051	U	0.0011	U
Cyclohexane	mg/Kg	--	0.079	U	0.0018	U	2.3	U	0.0013	U	0.00098	U	0.0011	U	0.0034	U	0.0011	U	0.00037	U	0.057	U	0.00059	U
Dibromochloromethane	mg/Kg	--	0.074	U	0.0017	U	2.1	U	0.0012	U	0.00091	U	0.001	U	0.0032	U	0.001	U	0.00071	U	0.053	U	0.0011	U
Dibromochloropropane	mg/Kg	8	0.067	U	0.0015	U	1.9	U	0.0011	U	0.00083	U	0.00094	U	0.0029	U	0.00092	U	0.00075	U	0.048	U	0.0012	U
Dichlorodifluoromethane	mg/Kg	230000	0.1	U	0.0023	U	2.9	U	0.0017	U	0.0013	U	0.0014	U	0.0043	U	0.0014	U	0.00067	U	0.073	U	0.001	U
Ethylbenzene	mg/Kg	110000	0.094	U	0.0022	U	2.7	U	0.0016	U	0.0012	U	0.0013	U	0.004	U	0.0013	U	0.00064	U	0.067	U	0.001	U
Isopropylbenzene	mg/Kg	--	0.085	U	0.002	U	2.5	U	0.0014	U	0.0011	U	0.0012	U	0.0036	U	0.0012	U	0.00068	U	0.061	U	0.0011	U
Methyl acetate	mg/Kg	--	0.084	U	0.0019	U	2.4	U	0.0014	U	0.001	U	0.0012	U	0.0036	U	0.0012	U	0.0009	U	0.06	U	0.0014	U
Methylcyclohexane	mg/Kg	--	0.089	U	0.002	U	2.6	U	0.0015	U	0.0011	U	0.0013	U	0.0038	U	0.0012	U	0.00073	U	0.064	U	0.0011	U
Methylene chloride	mg/Kg	97	0.061	U	0.0014	U	1.8	U	0.0016	J	0.00092	JB	0.0012	J	0.0034	JB	0.0011	JB	0.0013	J	0.044	U	0.0011	U
Methyltert-butylether	mg/Kg	320	0.074	U	0.0017	U	2.1	U	0.0012	U	0.00091	U	0.001	U	0.0031	U	0.001	U	0.00075					

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-04 05/08/08 Fill Primary		BW-04 05/08/08 Mat Primary		BW-04 05/08/08 Sand Primary		BW-04 05/09/08 Clay Primary		BW-16 05/05/08 Fill Primary		BW-16 05/05/08 Fill Duplicate		BW-16 05/05/08 Mat Primary		BW-16 05/05/08 Sand Primary		BW-17 07/23/08 Fill Primary		BW-17 07/24/08 Mat Primary		BW-17 07/24/08 Mat Duplicate	
Sample Depth			0.0-6.33 ft		6.33-8.0 ft		14.0-20.0 ft		30.0-32.0 ft		0.0-11.5 ft		0.0-11.5 ft		11.5-12.5 ft		13.5-19.5 ft		0.0-7.25 ft		10.0-13.0 ft		10.0-13.0 ft	
VOC Sample Depth			6.0-6.33 ft		7.0-8.0 ft		18.0-19.0 ft		31.0-32.0 ft		10.0-11.0 ft		10.0-11.0 ft		11.5-12.5 ft		19.0-20.0 ft		7.0-0-7.25 ft		12.0-13.0 ft		12.0-13.0 ft	
Semivolatile Organics																								
1,1'-Biphenyl	mg/Kg	34000	0.2	J	0.036	U	0.18	J	0.024	U	0.022	U	0.023	U	--		0.021	U	0.021	U	0.044	U	0.033	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.032	U	0.039	U	0.025	U	0.027	U	0.024	U	0.025	U	--		0.023	U	0.022	U	0.047	U	0.036	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.044	U	0.054	U	0.034	U	0.037	U	0.033	U	0.034	U	--		0.032	U	0.031	U	0.065	U	0.049	U
2,4,6-Trichlorophenol	mg/Kg	74	0.043	U	0.053	U	0.034	U	0.036	U	0.032	U	0.033	U	--		0.031	U	0.03	U	0.064	U	0.048	U
2,4-Dichlorophenol	mg/Kg	2100	0.016	U	0.019	U	0.012	U	0.013	U	0.012	U	0.012	U	--		0.012	U	0.011	U	0.024	U	0.018	U
2,4-Dimethylphenol	mg/Kg	14000	0.023	U	0.028	U	0.018	U	0.019	U	0.017	U	0.018	U	--		0.017	U	0.016	U	0.034	U	0.026	U
2,4-Dinitrophenol	mg/Kg	1400	0.63	U	0.77	U	0.49	U	0.53	U	0.48	U	0.49	U	--		0.46	U	0.44	U	0.94	U	0.7	U
2,4-Dinitrotoluene	mg/Kg	3	0.028	U	0.034	U	0.022	U	0.023	U	0.021	U	0.021	U	--		0.02	U	0.019	U	0.041	U	0.031	U
2,6-Dinitrotoluene	mg/Kg	3	0.034	U	0.042	U	0.027	U	0.029	U	0.026	U	0.026	U	--		0.025	U	0.024	U	0.051	U	0.038	U
2-Chloronaphthalene	mg/Kg	--	0.031	U	0.038	U	0.024	U	0.026	U	0.023	U	0.024	U	--		0.022	U	0.022	U	0.046	U	0.034	U
2-Chlorophenol	mg/Kg	2200	0.027	U	0.033	U	0.021	U	0.022	U	0.02	U	0.021	U	--		0.02	U	0.019	U	0.04	U	0.03	U
2-Methylnaphthalene	mg/Kg	2400	1.2		0.036	U	1.2		0.025	U	0.022	U	0.023	U	--		0.021	U	0.021	U	0.044	U	0.033	U
2-Methylphenol	mg/Kg	3400	0.033	U	0.041	U	0.03	J	0.028	U	0.029	J	0.026	U	--		0.024	U	0.023	U	0.05	U	0.037	U
2-Nitroaniline	mg/Kg	23000	0.032	U	0.039	U	0.025	U	0.027	U	0.024	U	0.025	U	--		0.023	U	0.022	U	0.048	U	0.036	U
2-Nitrophenol	mg/Kg	--	0.042	U	0.052	U	0.033	U	0.035	U	0.032	U	0.033	U	--		0.031	U	0.03	U	0.063	U	0.047	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.12	U	0.15	U	0.094	U	0.1	U	0.09	U	0.092	U	--		0.087	U	0.084	U	0.18	U	0.13	U
3-Nitroaniline	mg/Kg	--	0.046	U	0.056	U	0.036	U	0.038	U	0.035	U	0.035	U	--		0.033	U	0.032	U	0.068	U	0.051	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.38	U	0.46	U	0.29	U	0.31	U	0.28	U	0.29	U	--		0.27	U	0.26	U	0.56	U	0.42	U
4-Bromophenylphenyl ether	mg/Kg	--	0.024	U	0.029	U	0.019	U	0.02	U	0.018	U	0.018	U	--		0.017	U	0.017	U	0.036	U	0.027	U
4-Chloro-3-methylphenol	mg/Kg	--	0.032	U	0.04	U	0.025	U	0.027	U	0.025	U	0.025	U	--		0.024	U	0.023	U	0.048	U	0.036	U
4-Chloroaniline	mg/Kg	--	0.026	U	0.032	U	0.021	U	0.022	U	0.035	U	0.035	U	--		0.033	U	0.032	U	0.068	U	0.051	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.046	U	0.056	U	0.036	U	0.038	U	0.02	U	0.02	U	--		0.019	U	0.019	U	0.039	U	0.029	U
4-Methylphenol	mg/Kg	340	0.033	U	0.041	U	0.12	J	0.028	U	0.11	J	0.026	U	--		0.024	U	0.023	U	0.05	U	0.037	U
4-Nitroaniline	mg/Kg	--	0.022	U	0.027	U	0.018	U	0.019	U	0.017	U	0.017	U	--		0.016	U	0.016	U	0.033	U	0.025	U
4-Nitrophenol	mg/Kg	--	0.041	U	0.051	U	0.033	U	0.035	U	0.031	U	0.032	U	--		0.03	U	0.029	U	0.062	U	0.046	U
Acenaphthene	mg/Kg	37000	0.44	J	0.034	U	0.21	J	0.023	U	0.021	U	0.024	J	--		0.02	U	0.019	U	0.041	U	0.031	U
Acenaphthylene	mg/Kg	300000	0.078	J	0.038	U	0.024	U	0.026	U	0.023	U	0.03	J	--		0.023	U	0.022	U	0.046	U	0.035	U
Acetophenone	mg/Kg	5	0.032	U	0.04	U	0.025	U	0.027	U	0.024	U	0.025	U	--		0.024	U	0.023	U	0.048	U	0.036	U
Anthracene	mg/Kg	30000	0.66		0.037	U	0.083	J	0.025	U	0.041	J	0.073	J	--		0.022	U	0.021	U	0.053	J	0.039	J
Atrazine	mg/Kg	2400	0.037	U	0.045	U	0.029	U	0.031	U	0.028	U	0.028	U	--		0.027	U	0.026	U	0.055	U	0.041	U
Benzaldehyde	mg/Kg	68000	0.056	U	0.069	U	0.044	U	0.047	U	0.043	U	0.044	U	--		0.041	U	0.04	U	0.084	U	0.063	U
Benzo(a)anthracene	mg/Kg	2	0.89		0.026	U	0.017	U	0.018	U	0.18	J	0.32	J	--		0.015	U	0.015	U	0.11	J	0.024	U
Benzo(a)pyrene	mg/Kg	0.2	0.76		0.02	U	0.013	U	0.014	U	0.2	J	0.3	J	--		0.082	J	0.012	U	0.11	J	0.12	J
Benzo(b)fluoranthene	mg/Kg	2	1.5		0.025	U	0.016	U	0.017	U	0.37	J	0.61		--		0.015	U	0.014	U	0.29	J	0.24	J
Benzo(ghi)perylene	mg/Kg	30000	0.66		0.022	U	0.014	U	0.015	U	0.19	J	0.3	J	--		0.013	U	0.013	U	0.058	J	0.09	J
Benzo(k)fluoranthene	mg/Kg	23	0.017	U	0.021	U	0.013	U	0.014	U	0.013	U	0.013	U	--		0.012	U	0.012	U	0.025	U	0.019	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.025	U	0.03	U	0.019	U	0.021	U	0.019	U	0.019	U	--		0.018	U	0.017	U	0.037	U	0.028	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.012	U	0.015	U	0.0094	U	0.01	U	0.0091	U	0.0092	U	--		0.0087	U	0.0084	U	0.018	U	0.013	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.16	J	0.05	U	0.032	U	0.034	U	0.099	J	0.13	J	--		0.03	U	0.11	J	0.061	U	0.099	J
Butyl benzyl phthalate	mg/Kg	14000	0.043	U	0.052	U	0.033	U	0.036	U	0.1	J	0.057	J	--		0.031	U	0.03	U	0.064	U	0.048	U
Caprolactam	mg/Kg	340000	0.1	U	0.12	U	0.079	U	0.084	U	0.076	U	0.078	U	--		0.073	U	0.071	U	0.15	U	0.11	U
Carbazole	mg/Kg	96	0.46	J	0.027	U	0.036	J	0.018	U	0.016	U	0.044	J	--		0.016	U	0.015	U	0.032	U	0.024	U
Chrysene	mg/Kg	230	0.82		0.026	U	0.017	U	0.018	U	0.2	J	0.38	J	--		0.015	U	0.015	U	0.16	J	0.024	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.18	J	0.042	U	0.027	U	0.028	U	0.026	U	0.054	J	--		0.025							

TABLE 4-4

ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-04 05/08/08 Fill Primary		BW-04 05/08/08 Mat Primary		BW-04 05/08/08 Sand Primary		BW-04 05/09/08 Clay Primary		BW-16 05/05/08 Fill Primary		BW-16 05/05/08 Fill Duplicate		BW-16 05/05/08 Mat Primary		BW-16 05/05/08 Sand Primary		BW-17 07/23/08 Fill Primary		BW-17 07/24/08 Mat Primary		BW-17 07/24/08 Mat Duplicate	
Sample Depth			0.0-6.33 ft		6.33-8.0 ft		14.0-20.0 ft		30.0-32.0 ft		0.0-11.5 ft		0.0-11.5 ft		11.5-12.5 ft		13.5-19.5 ft		0.0-7.25 ft		10.0-13.0 ft		10.0-13.0 ft	
VOC Sample Depth			6.0-6.33 ft		7.0-8.0 ft		18.0-19.0 ft		31.0-32.0 ft		10.0-11.0 ft		10.0-11.0 ft		11.5-12.5 ft		19.0-20.0 ft		7.0.0-7.25 ft		12.0-13.0 ft		12.0-13.0 ft	
Semivolatile Organics (Continued)																								
Fluoranthene	mg/Kg	24000	2.5		0.042	U	0.046	J	0.029	U	0.33	J	0.59		--		0.025	U	0.024	U	0.18	J	0.14	J
Fluorene	mg/Kg	24000	0.18	J	0.032	U	0.19	J	0.022	U	0.02	U	0.02	U	--		0.019	U	0.018	U	0.038	U	0.029	U
Hexachlorobenzene	mg/Kg	1	0.032	U	0.039	U	0.084	J	0.027	U	0.024	U	0.025	U	--		0.023	U	0.022	U	0.048	U	0.036	U
Hexachlorobutadiene	mg/Kg	25	0.033	U	0.04	U	0.026	U	0.027	U	0.025	U	0.025	U	--		0.024	U	0.023	U	0.048	U	0.036	U
Hexachlorocyclopentadiene	mg/Kg	110	0.024	U	0.03	U	0.019	U	0.02	U	0.018	U	0.019	U	--		0.018	U	0.017	U	0.036	U	0.027	U
Hexachloroethane	mg/Kg	140	0.024	U	0.029	U	0.019	U	0.02	U	0.018	U	0.018	U	--		0.017	U	0.017	U	0.035	U	0.027	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.54		0.023	U	0.015	U	0.016	U	0.15	J	0.23	J	--		0.014	U	0.013	U	0.099	J	0.074	J
Isophorone	mg/Kg	2000	0.03	U	0.036	U	0.023	U	0.025	U	0.022	U	0.023	U	--		0.022	U	0.021	U	0.044	U	0.033	U
Naphthalene	mg/Kg	17	170		16		13		0.022	U	0.048	J	0.02	U	--		0.019	U	0.018	U	0.038	U	0.029	U
Nitrobenzene	mg/Kg	340	0.013	U	0.016	U	0.01	U	0.011	U	0.01	U	0.01	U	--		0.0097	U	0.0093	U	0.02	U	0.015	U
N-Nitrosodiphenylamine	mg/Kg	390	0.029	U	0.035	U	0.023	U	0.024	U	0.022	U	0.022	U	--		0.021	U	0.02	U	0.043	U	0.032	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.013	U	0.016	U	0.01	U	0.011	U	0.0098	U	0.01	U	--		0.0095	U	0.0092	U	0.019	U	0.015	U
Pentachlorophenol	mg/Kg	10	0.04	U	0.049	U	0.031	U	0.033	U	0.03	U	0.031	U	--		0.029	U	0.028	U	0.059	U	0.044	U
Phenanthrene	mg/Kg	300000	3.3		0.031	U	0.22	J	0.021	U	0.15	J	0.3	J	--		0.019	U	0.018	U	0.038	U	0.029	U
Phenol	mg/Kg	210000	0.032	U	0.039	U	0.025	U	0.027	U	0.13	J	0.025	U	--		0.023	U	0.023	U	0.048	U	0.036	U
Pyrene	mg/Kg	18000	1.9		0.04	U	0.031	J	0.027	U	0.27	J	0.49		--		0.024	U	0.023	U	0.17	J	0.16	J
Polychlorinated Dioxins/Furans																								
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.012		0.0049	J	0.066		--		0.036		0.026		--		0.0059	U	0.012		0.00076	J	--	
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.7		0.0099	QJ	2.9		--		1.2		0.52		--		0.0013	J	0.0026	BJ	0.0066	BJ	--	
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.017		0.01	U	0.09		--		0.029		0.013		--		0.0059	U	0.0056	U	0.012	U	--	
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.00094	J	0.01	U	0.0078	J	--		0.00098	QJ	0.00075	J	--		0.0059	U	0.0056	U	0.012	U	--	
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.23	Q	0.0038	QJ	0.95	Q	--		0.21		0.1		--		0.00026	J	0.00058	QJ	0.0016	J	--	
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.002	J	0.01	U	0.027		--		0.0025	J	0.0012	J	--		0.0059	U	0.0056	U	0.012	U	--	
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.043		0.00083	J	0.12		--		0.055	Q	0.032	Q	--		0.0059	U	0.00022	J	0.0003	QJ	--	
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0017	J	0.00048	QJ	0.015		--		0.0015	QJ	0.0015	J	--		0.0059	U	0.0056	U	0.012	U	--	
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.008	U	0.01	U	0.013	U	--		0.00066	Q	0.00067	QJ	--		0.0059	U	0.0056	U	0.012	U	--	
1,2,3,7,8-PCDD	ug/Kg	--	0.0015	QJ	0.01	U	0.014	Q	--		0.0012	QJ	0.00084	QJ	--		0.0059	U	0.0056	U	0.00042	QJ	--	
1,2,3,7,8-PCDF	ug/Kg	--	0.0087	Q	0.00024	QJ	0.012	J	--		0.011		0.0053	J	--		0.0059	U	0.0056	U	0.012	U	--	
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.013		0.01	U	0.039		--		0.016		0.0075		--		0.0059	U	0.0056	U	0.00018	QJ	--	
2,3,4,7,8-PCDF	ug/Kg	--	0.028	Q	0.00051	QJ	0.093		--		0.018	Q	0.0084	Q	--		0.0059	U	0.0056	U	0.012	U	--	
2,3,7,8-TCDD	ug/Kg	--	0.0022	Q	0.002	U	0.0028	Q	--		0.0025		0.0013		--		0.0012	U	0.0011	U	0.0024	U	--	
2,3,7,8-TCDF	ug/Kg	--	0.0021	Q	0.002	U	0.0098	Q	--		0.014	Q	0.0084	Q	--		0.0012	U	0.0011	U	0.0024	U	--	
OCDD	ug/Kg	--	0.077	B	0.14	B	0.3	B	--		1.2		1.4		--		0.0054	QJ	2.1	BJ	0.01	BJ	--	
OCDF	ug/Kg	--	0.84		0.016	J	4.3		--		1.2	B	0.52	B	--		0.0039	BJ	0.0055	BJ	0.014	BJ	--	
Total HpCDD	ug/Kg	--	0.028		0.016		0.12		--		0.093		0.065		--		0.00033	QJ	0.027		0.002	QJ	--	
Total HpCDF	ug/Kg	--	0.78		0.011	QJ	3.2		--		1.3		0.59		--		0.0013	J	0.0026	BJ	0.0069	QJB	--	
Total HxCDD	ug/Kg	--	0.027		0.0067	QJ	0.16	Q	--		0.028	Q	0.016	QJ	--		0.0059	U	0.0012	QJ	0.012	U	--	
Total HxCDF	ug/Kg	--	0.62	Q	0.01	QJ	2.1	Q	--		0.68	Q	0.35	Q	--		0.00034	J	0.0012	QJ	0.0041	QJ	--	
Total PeCDD	ug/Kg	--	0.031	Q	0.01	U	0.27	Q	--		0.022	Q	0.012	QJ	--		0.0059	U	0.0056	U	0.00042	QJ	--	
Total PeCDF	ug/Kg	--	0.39	Q	0.0052	QJ	0.96	Q	--		0.35	Q	0.13	Q	--		0.0059	U	0.0056	U	0.0011	JQ	--	
Total TCDD	ug/Kg	--	0.035	Q	0.00077	QJ	0.66	Q	--		0.033	Q	0.014	Q	--		0.0012	U	0.0011	U	0.00048	QJ	--	
Total TCDF	ug/Kg	--	0.27	Q	0.0077	Q	0.67	Q	--		0.24	Q	0.12	Q	--		0.0012	U	0.0011	U	0.0013	JQ	--	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																								
1,2,3,4,6,7,8-HpCDD	0.01	--	1.20E-04		4.90E-05		6.60E-04		--		3.60E-04		2.60E-04		--		--		1.20E-04		7.60E-06		--	
1,2,3,4,6,7,8-HpCDF	0.01	--	7.00E-03		--		2.90E-02		--		1.20E-02		5.20E-03		--		1.30E-05		2.60E-05		6.60E-05		--	
1,2,3,4,7,8,9-HpCDF	0.01	--	1.70E-04		--		9.00E-04		--		2.90E-04		1.30E-04		--		--		--		--		--	
1,2,3,4,7,8-HxCDD	0.10	--	9.40E-05		--		7.80E-04		--		--		7.50E-05		--		--		--		--		--	
1,2,3,4,7,8-HxCDF	0.10	--	--		--		--		--		2.10E-02		1.00E-02		--		2.60E-05		--		1.60E-04		--	
1,2,3,6,7,8-HxCDD	0.10	--	2.00E-04		--		2.70E-03		--		2.50E-04		1.20E-04		--		--		--		--		--	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-04 05/08/08 Fill Primary		BW-04 05/08/08 Mat Primary		BW-04 05/08/08 Sand Primary		BW-04 05/09/08 Clay Primary		BW-16 05/05/08 Fill Primary		BW-16 05/05/08 Fill Duplicate		BW-16 05/05/08 Mat Primary		BW-16 05/05/08 Sand Primary		BW-17 07/23/08 Fill Primary		BW-17 07/24/08 Mat Primary		BW-17 07/24/08 Mat Duplicate	
Sample Depth			0.0-6.33 ft		6.33-8.0 ft		14.0-20.0 ft		30.0-32.0 ft		0.0-11.5 ft		0.0-11.5 ft		11.5-12.5 ft		13.5-19.5 ft		0.0-7.25 ft		10.0-13.0 ft		10.0-13.0 ft	
VOC Sample Depth			6.0-6.33 ft		7.0-8.0 ft		18.0-19.0 ft		31.0-32.0 ft		10.0-11.0 ft		10.0-11.0 ft		11.5-12.5 ft		19.0-20.0 ft		7.0.0-7.25 ft		12.0-13.0 ft		12.0-13.0 ft	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continu																								
1,2,3,6,7,8-HxCDF	0.10	--	4.30E-03		8.30E-05		1.20E-02		--		--		--		--		--		2.20E-05		--		--	
1,2,3,7,8,9-HxCDD	0.10	--	1.70E-04		--		1.50E-03		--		--		1.50E-04		--		--		--		--		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDD	1.00	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDF	0.05	--	--		--		6.00E-04		--		5.50E-04		2.65E-04		--		--		--		--		--	
2,3,4,6,7,8-HxCDF	0.10	--	1.30E-03		--		3.90E-03		--		1.60E-03		7.50E-04		--		--		--		--		--	
2,3,4,7,8-PCDF	0.50	--	--		--		4.65E-02		--		--		--		--		--		--		--		--	
2,3,7,8-TCDD	1.00	--	--		--		--		--		2.50E-03		1.30E-03		--		--		--		--		--	
2,3,7,8-TCDF	0.10	--	--		--		--		--		--		--		--		--		--		--		--	
OCDD	0.0001	--	7.70E-06		1.40E-05		3.00E-05		--		1.20E-04		1.40E-04		--		--		2.10E-04		1.00E-06		--	
OCDF	0.0001	--	8.40E-05		1.60E-06		4.30E-04		--		1.20E-04		5.20E-05		--		3.90E-07		5.50E-07		1.40E-06		--	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	1.34E-02		1.48E-04		9.90E-02		--		3.88E-02		1.84E-02		--		3.94E-05		3.79E-04		2.36E-04		--	
Polychlorinated Biphenyls (Aroclors)																								
Aroclor 1016	mg/Kg	1	0.004	U	0.0049	U	0.0031	U	--		0.003	U	0.0031	U	--		0.0029	U	0.0028	U	0.0059	U	0.0044	U
Aroclor 1221	mg/Kg	1	0.0051	U	0.0063	U	0.004	U	--		0.0039	U	0.0039	U	--		0.0038	U	0.0036	U	0.0076	U	0.0057	U
Aroclor 1232	mg/Kg	1	0.0046	U	0.0056	U	0.0036	U	--		0.0035	U	0.0035	U	--		0.0034	U	0.0032	U	0.0068	U	0.0051	U
Aroclor 1242	mg/Kg	1	0.0044	U	0.0054	U	0.0034	U	--		0.0033	U	0.0034	U	--		0.0032	U	0.0031	U	0.0065	U	0.0049	U
Aroclor 1248	mg/Kg	1	0.0025	U	0.0031	U	0.002	U	--		0.0019	U	0.002	U	--		0.0019	U	0.0018	U	0.0038	U	0.0028	U
Aroclor 1254	mg/Kg	1	0.0038	U	0.0047	U	0.003	U	--		0.39		0.87		--		0.0028	U	0.0027	U	0.0057	U	0.0043	U
Aroclor 1260	mg/Kg	1	0.046		0.0047	U	0.003	U	--		0.0029	U	0.0029	U	--		0.0028	U	0.0027	U	0.0057	U	0.0043	U
Aroclor 1262	mg/Kg	1	0.0059	U	0.0072	U	0.0046	U	--		0.0044	U	0.0045	U	--		0.0043	U	0.0041	U	0.0087	U	0.0065	U
Aroclor 1268	mg/Kg	1	0.0034	U	0.0042	U	0.0027	U	--		0.0026	U	0.0027	U	--		0.0025	U	0.0024	U	0.0051	U	0.0038	U
Metals																								
Aluminum	mg/Kg	--	27300		10800		4540		14800		9200	J	8280	J	--		2770	J	13300		4020		5540	
Antimony	mg/Kg	450	1.5	U	0.18	U	0.12	U	0.25	B	1.3		1.2		--		0.22	B	0.1	U	0.35	BJ	0.17	U
Arsenic	mg/Kg	19	9.8	B	6.5		1.8		7.8		6.5		5.5		--		1.1	B	1.9		1.8	B	1.2	B
Barium	mg/Kg	59000	62.3		26.1	B	10.6	B	94.9		102		88.4		--		10.8	B	98.7		26.7	B	24.2	B
Beryllium	mg/Kg	140	0.099	U	0.75	B	0.34	B	0.94		0.54		0.52		--		0.21	B	0.85		0.16	B	0.16	B
Cadmium	mg/Kg	78	2.2		0.48	B	0.15	B	0.064	U	0.11	B	0.19	B	--		0.055	U	0.15	B	0.11	U	0.085	U
Calcium	mg/Kg	--	150000		2050		605	B	5660		1070		1050		--		513	B	1740		3470		1870	
Chromium ⁽³⁾	mg/Kg	120000	21000	J	88.8	J	17.1	J	24.7	J	104	J	94.3	J	--		12	J	22.6		17.3		9.2	
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	2510		0.4	U	0.4	U	0.4	U	6.6		5.4		--		0.4	U	0.4	U	0.4	U	0.4	U
Cobalt	mg/Kg	590	126		8	B	3.8	B	13.5		4.9	B	4.6	B	--		2.2	B	10.1		1.4	B	1.4	B
Copper	mg/Kg	45000	23.8		11.5		5.9		29.6		49.1		40.7		--		4.1		24.6		8.2		3.7	B
Iron	mg/Kg	--	72100		22300		8230		29800	J	14400		13600		--		6800		24500		5410		4790	
Lead	mg/Kg	800	52.3		10.5		3.4		12.2		113		111		--		1.9		14		13.7		6.3	
Magnesium	mg/Kg	--	46800		4660		1280		9370		1990		1790		--		1030		6720		2510		1590	
Manganese	mg/Kg	5900	933		209		63.7		662		187		198		--		42.2		503		151		105	
Mercury	mg/Kg	65	0.18		0.03	B	0.0089	U	0.025	B	0.18		0.12		--		0.0084	U	0.012	B	0.028	B	0.022	B
Nickel	mg/Kg	23000	597	J	20.3	J	9.1	J	29.1		14.5		14		--		5.1		23.8		4.6	B	4.3	B
Potassium	mg/Kg	--	308	B	2210		482	B	2000		496	B	484	B	--		272	B	2260		216	B	235	B
Selenium	mg/Kg	5700	0.46	U	0.94	B	0.36	U	0.58	B	0.87		0.73		--		0.34	U	0.32	U	0.69	U	0.52	U
Silver	mg/Kg	5700	0.57	B	0.15	B	0.047	U	0.15	B	0.17	BJ	0.16	B	--		0.044	U	0.12	B	0.089	U	0.067	U
Sodium	mg/Kg	--	1340		2640		467	B	503	B	54.7	B	89.8	B	--		64.6	B	150	B	862	B	510	B
Thallium	mg/Kg	79	8.6		0.64	U	0.4	U	2		0.87	B	1.2		--		0.38	U	0.69	B	0.77	U	0.58	U
Vanadium	mg/Kg	1100	1390		38.6		19.1		29.3		39		37.2		--		10.4		27.4		9.8	B	10.2	
Zinc	mg/Kg	110000	223		49.2		19.8		67.9		73.5		85.2		--		12.4		64.8	J	14.5		14.2	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-04 05/08/08 Fill Primary		BW-04 05/08/08 Mat Primary		BW-04 05/08/08 Sand Primary		BW-04 05/09/08 Clay Primary		BW-16 05/05/08 Fill Primary		BW-16 05/05/08 Fill Duplicate		BW-16 05/05/08 Mat Primary		BW-16 05/05/08 Sand Primary		BW-17 07/23/08 Fill Primary		BW-17 07/24/08 Mat Primary		BW-17 07/24/08 Mat Duplicate	
Sample Depth			0.0-6.33 ft		6.33-8.0 ft		14.0-20.0 ft		30.0-32.0 ft		0.0-11.5 ft		0.0-11.5 ft		11.5-12.5 ft		13.5-19.5 ft		0.0-7.25 ft		10.0-13.0 ft		10.0-13.0 ft	
VOC Sample Depth			6.0-6.33 ft		7.0-8.0 ft		18.0-19.0 ft		31.0-32.0 ft		10.0-11.0 ft		10.0-11.0 ft		11.5-12.5 ft		19.0-20.0 ft		7.0-7.25 ft		12.0-13.0 ft		12.0-13.0 ft	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																								
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	--		0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	--	
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	--		0.026	U	--		0.026	U	0.026	U	0.026	U	0.026	U	--	
1,4-Dichlorobenzene	mg/L	7.5	0.059		0.0046	U	0.46		--		0.0046	U	--		0.0046	U	0.0046	U	0.0046	U	0.011	J	--	
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	--		0.0041	U	--		0.0041	U	0.0041	U	0.0041	U	0.0041	U	--	
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	--		0.0026	U	--		0.0026	U	0.0026	U	0.0026	U	0.0026	U	--	
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	--		0.0028	U	--		0.0028	U	0.0028	U	0.0028	U	0.0028	U	--	
2-Butanone	mg/L	200	0.029	U	0.029	U	0.029	U	--		0.029	U	--		0.029	U	0.029	U	0.029	U	0.029	U	--	
Benzene	mg/L	0.5	0.033	U	0.033	U	0.033	U	--		0.033	U	--		0.033	U	0.033	U	0.033	U	0.033	U	--	
Carbon Tetrachloride	mg/L	0.5	0.037	U	0.037	U	0.037	U	--		0.037	U	--		0.037	U	0.037	U	0.037	U	0.037	U	--	
Chlorobenzene	mg/L	100	0.12	J	0.26		0.028	U	--		0.028	U	--		0.028	U	0.028	U	0.028	U	0.028	U	--	
Chloroform	mg/L	6	0.031	U	0.031	U	0.031	U	--		0.031	U	--		0.031	U	0.031	U	0.031	U	0.031	U	--	
Cresols	mg/L	200	0.0089	U	0.0089	U	0.0089	U	--		0.0089	U	--		0.0089	U	0.0089	U	0.0089	U	0.0089	U	--	
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	--		0.0049	U	--		0.0049	U	0.0049	U	0.0049	U	0.0049	U	--	
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	--		0.0033	U	--		0.0033	U	0.0033	U	0.0033	U	0.0033	U	--	
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	--		0.0036	U	--		0.0036	U	0.0036	U	0.0036	U	0.0036	U	--	
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	--		0.0056	U	--		0.0056	U	0.0056	U	0.0056	U	0.0056	U	--	
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	--		0.005	U	--		0.005	U	0.005	U	0.005	U	0.005	U	--	
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	--		0.011	U	--		0.011	U	0.011	U	0.011	U	0.011	U	--	
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	--		0.023	U	--		0.023	U	0.023	U	0.023	U	0.023	U	--	
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	--		0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	--	
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	--		0.038	U	--		0.038	U	0.038	U	0.038	U	0.038	U	--	
Arsenic	mg/L	5	0.22	B	0.14	B	0.16	B	--		0.18	B	--		0.17	B	0.19	B	0.14	B	0.16	B	--	
Barium	mg/L	100	0.091	B	0.028	B	0.092	B	--		0.64	B	--		0.12	B	0.18	B	0.73	BJ	0.1	BJ	--	
Cadmium	mg/L	1	0.0012	U	0.0012	U	0.0012	U	--		0.0012	U	--		0.0012	U	0.0012	U	0.0012	U	0.0012	U	--	
Chromium	mg/L	5	43.7		0.057	B	0.024	B	--		0.32	B	--		0.0022	B	0.022	B	0.0011	U	0.0062	B	--	
Lead	mg/L	5	0.013	U	0.013	U	0.013	U	--		0.096	B	--		0.013	U	0.013	U	0.013	U	0.013	U	--	
Mercury	mg/L	0.2	0.000055	U	0.000055	U	0.000055	U	--		0.000055	U	--		0.000055	U	0.000055	U	0.000055	U	0.000055	U	--	
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	--		0.015	U	--		0.015	U	0.017	B	0.015	U	0.015	U	--	
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	--		0.0025	U	--		0.0025	U	0.0025	U	0.0025	U	0.0025	U	--	
RCRA Characteristics and Indicators																								
Corrosivity (pH)	SU	2<pH<12.5	11.96		8.31		6.19		8.21		6.43		6.3		--		7.76		7.54		7.3		--	
Cyanide	mg/Kg	23000	0.75	B	0.19	U	0.12	U	--		0.12	U	0.61	B	--		0.11	U	0.24	B	0.23	U	0.17	U
Total Sulfide (Reactivity)	mg/Kg	--	19.7	U	24.5	U	15.4	U	--		14.9	U	--		--		14.5	U	13.8	U	95.6		--	
Ignitability	None	--	No		No		No		--		No		--		--		No		No		No		--	
Oxidation Reduction Potential	mV	--	--		--		--		--		481		--		--		431		629		617		599	
Percent Solids	%	--	62.3		50.2		79.4		--		82.4		--		--		84.6		88.6		41.9		55.2	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-17 07/24/08 Sand Primary	BW-17 07/24/08 Clay Primary	BW-18A 04/29/08 Fill Primary	BW-18A 04/29/08 Mat Primary	BW-18A 04/29/08 Sand Primary	BW-18B 07/25/08 Fill Primary	BW-18B 07/28/08 Mat Primary	BW-18B 07/28/08 Sand Primary	BW-18B 07/28/08 Clay Primary	BW-19 07/28/08 Fill Primary	BW-19 07/29/08 Sand Primary											
Sample Depth			13.0-17.0 ft	22.0-24.0 ft	0.5-7.0 ft	7.0-10.0 ft	10.0-18.0 ft	0.0-5.75 ft	8.0-13.0 ft	13.0-17.75 ft	22.0-24.0 ft	0.0-7.5 ft	12.0-16.25 ft											
VOC Sample Depth			16.0-17.0 ft	23.0-24.0 ft	6.5-7.0 ft	9.0-10.0 ft	16.0-17.0 ft	5.0-5.75 ft	12.0-13.0 ft	17.0-17.75 ft	23.0-24.0 ft	7.0-7.5 ft	16.0-16.25 ft											
Volatile Organics																								
1,1,1-Trichloroethane	mg/Kg	4200	0.76	U	0.00055	U	18	U	7.9	U	2.3	U	0.11	U	0.00067	U	63	U	0.00054	U	0.0005	U	0.057	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.85	U	0.00081	U	20	U	8.8	U	2.5	U	0.12	U	0.00098	U	71	U	0.0008	U	0.00074	U	0.064	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	6	0.8	U	0.00094	U	22	U	9.6	U	2.7	U	0.11	U	0.0011	U	66	U	0.00092	U	0.00085	U	0.06	U
1,1,2-Trichloroethane	mg/Kg	--	0.93	U	0.0012	U	19	U	8.3	U	2.4	U	0.13	U	0.0015	U	77	U	0.0012	U	0.0011	U	0.07	U
1,1-Dichloroethane	mg/Kg	24	0.73	U	0.00065	U	18	U	7.6	U	2.2	U	0.1	U	0.00079	U	61	U	0.00064	U	0.00059	U	0.055	U
1,1-Dichloroethene	mg/Kg	150	0.88	U	0.00096	U	21	U	9.1	U	2.6	U	0.13	U	0.0012	U	73	U	0.00094	U	0.00087	U	0.066	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.96	J	0.00099	U	1300		55		90		0.11	U	0.0012	U	210	J	0.00098	U	0.0009	U	0.058	U
1,2-Dibromoethane	mg/Kg	0.04	0.78	U	0.00097	U	19	U	8.1	U	2.3	U	0.11	U	0.0012	U	65	U	0.00096	U	0.00088	U	0.059	U
1,2-Dichlorobenzene	mg/Kg	59000	53		0.0009	U	2700		1200		200		0.46	J	0.09		5600		0.0014	J	0.00082	U	0.96	
1,2-Dichloroethane	mg/Kg	3	0.82	U	0.00069	U	20	U	8.5	U	2.4	U	0.12	U	0.00084	U	68	U	0.00068	U	0.00063	U	0.062	U
1,2-Dichloropropane	mg/Kg	5	0.83	U	0.00061	U	20	U	8.6	U	2.5	U	0.12	U	0.00074	U	69	U	0.0006	U	0.00056	U	0.063	U
1,3-Dichlorobenzene	mg/Kg	59000	57		0.00074	U	2800		1000		200		1.2		0.071		7300		0.0014	J	0.00067	U	0.84	
1,4-Dichlorobenzene	mg/Kg	13	70		0.00072	U	1600		660		110		2.1		0.16		8400		0.0022	J	0.00065	U	1.2	
2-Butanone	mg/Kg	44000	0.73	U	0.00099	U	18	U	7.6	U	2.2	U	0.1	U	0.0012	U	60	U	0.00098	U	0.0009	U	0.055	U
2-Hexanone	mg/Kg	--	0.6	U	0.00078	U	14	U	6.2	U	1.8	U	0.085	U	0.00094	U	49	U	0.00076	U	0.00071	U	0.045	U
4-Methyl-2-pentanone	mg/Kg	--	0.9	U	0.00073	U	16	U	6.8	U	1.9	U	0.13	U	0.00089	U	54	U	0.00072	U	0.00067	U	0.049	U
Acetone	mg/Kg	--	0.9	U	0.0056	U	22	U	9.3	U	2.6	U	0.13	U	0.0068	U	74	U	0.0055	U	0.0051	U	0.067	U
Benzene	mg/Kg	5	0.78	U	0.00076	U	19	U	8.1	U	2.3	U	0.11	U	0.037		65	U	0.00075	U	0.00069	U	0.059	U
Bromodichloromethane	mg/Kg	3	0.73	U	0.00063	U	18	U	7.6	U	2.2	U	0.1	U	0.00077	U	61	U	0.00062	U	0.00058	U	0.055	U
Bromoform	mg/Kg	280	0.77	U	0.0005	U	18	U	7.9	U	2.3	U	0.11	U	0.0006	U	63	U	0.00049	U	0.00045	U	0.058	U
Bromomethane	mg/Kg	59	0.95	U	0.00083	U	23	U	9.9	U	2.8	U	0.14	U	0.001	U	79	U	0.00082	U	0.00076	U	0.072	U
Carbon disulfide	mg/Kg	110000	0.92	U	0.00058	U	22	U	9.6	U	2.7	U	0.13	U	0.0007	U	76	U	0.00057	U	0.0023	J	0.069	U
Carbon tetrachloride	mg/Kg	2	0.67	U	0.0005	U	16	U	7	U	2	U	0.096	U	0.00061	U	56	U	0.00049	U	0.00046	U	0.051	U
Chlorobenzene	mg/Kg	7400	0.92	J	0.00085	U	68	J	130		4.8	J	1.3		0.078		69	U	0.00084	U	0.00078	U	0.074	J
Chloroethane	mg/Kg	1100	1.1	U	0.0017	U	26	U	11	U	3.2	U	0.15	U	0.0021	U	90	U	0.0017	U	0.0016	U	0.081	U
Chloroform	mg/Kg	2	0.8	U	0.00066	U	19	U	8.2	U	2.3	U	0.11	U	0.0008	U	66	U	0.00065	U	0.0006	U	0.06	U
Chloromethane	mg/Kg	12	0.83	U	0.00096	U	20	U	8.6	U	2.5	U	0.12	U	0.0012	U	69	U	0.00094	U	0.00087	U	0.063	U
cis-1,2-Dichloroethene	mg/Kg	560	0.81	U	0.00079	U	19	U	8.4	U	2.4	U	0.12	U	0.00096	U	67	U	0.00078	U	0.00072	U	0.061	U
cis-1,3-Dichloropropene	mg/Kg	7	0.68	U	0.00076	U	16	U	7	U	2	U	0.096	U	0.00093	U	56	U	0.00075	U	0.0007	U	0.051	U
Cyclohexane	mg/Kg	--	0.75	U	0.00042	U	18	U	7.8	U	2.2	U	0.11	U	0.00051	U	62	U	0.00041	U	0.00038	U	0.056	U
Dibromochloromethane	mg/Kg	--	0.7	U	0.0008	U	17	U	7.2	U	2.1	U	0.099	U	0.00097	U	58	U	0.00079	U	0.00073	U	0.052	U
Dibromochloropropane	mg/Kg	8	0.63	U	0.00084	U	15	U	6.6	U	1.9	U	0.09	U	0.001	U	52	U	0.00083	U	0.00077	U	0.048	U
Dichlorodifluoromethane	mg/Kg	230000	0.96	U	0.00075	U	23	U	10	U	2.8	U	0.14	U	0.0067	J	79	U	0.00074	U	0.00068	U	0.072	U
Ethylbenzene	mg/Kg	110000	0.89	U	0.00072	U	21	U	9.2	U	2.6	U	0.13	U	0.00088	U	73	U	0.00071	U	0.00066	U	0.067	U
Isopropylbenzene	mg/Kg	--	0.81	U	0.00076	U	19	U	8.4	U	2.4	U	0.11	U	0.00093	U	67	U	0.00075	U	0.0007	U	0.061	U
Methyl acetate	mg/Kg	--	0.8	U	0.001	U	19	U	8.3	U	2.4	U	0.11	U	0.0012	U	66	U	0.001	U	0.00092	U	0.06	U
Methylcyclohexane	mg/Kg	--	0.84	U	0.00082	U	20	U	8.7	U	2.5	U	0.12	U	0.00099	U	70	U	0.0008	U	0.00074	U	0.063	U
Methylene chloride	mg/Kg	97	0.58	U	0.00076	U	14	U	9.7	J	1.7	U	0.082	U	0.00092	U	48	U	0.00074	U	0.00069	U	0.043	U
Methyltert-butylether	mg/Kg	320	0.7	U	0.00084	U	17	U	7.2	U	2.1	U	0.099	U	0.001	U	58	U	0.00083	U	0.00077	U	0.052	U
Styrene	mg/Kg	260	0.84	U	0.0006	U	20	U	8.7	U	2.5	U	0.12	U	0.00073	U	69	U	0.00059	U	0.00055	U	0.063	U
Tetrachloroethene	mg/Kg	5	0.98	U	0.00077	U	23	U	10	U	2.9	U	0.14	U	0.00093	U	81	U	0.00075	U	0.0007	U	0.074	U
Toluene	mg/Kg	91000	0.6	U	0.00082	U	14	U	6.2	U	1.8	U	0.085	U	0.001	U	49	U	0.00081	U	0.00075	U	0.045	U
trans-1,2-Dichloroethene	mg/Kg	720	0.88	U	0.00067	U	21	U	9.1	U	2.6	U	0.12	U	0.00081	U	72	U	0.00066	U	0.00061	U	0.066	U
trans-1,3-Dichloropropene	mg/Kg	7	0.66	U	0.00067	U	16	U	6.8	U	1.9	U	0.093	U	0.00082	U	54	U	0.00066	U	0.00061	U	0.049	U
Trichloroethene	mg/Kg	20	0.84	U	0.00074	U	20	U	8.7	U	2.5	U	0.12	U	0.0009	U	70	U	0.00073	U	0.00067	U	0.063	U
Trichlorofluoromethane</																								

TABLE 4-4

ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-17 07/24/08 Sand Primary		BW-17 07/24/08 Clay Primary		BW-18A 04/29/08 Fill Primary		BW-18A 04/29/08 Mat Primary		BW-18A 04/29/08 Sand Primary		BW-18B 07/25/08 Fill Primary		BW-18B 07/28/08 Mat Primary		BW-18B 07/28/08 Sand Primary		BW-18B 07/28/08 Clay Primary		BW-19 07/28/08 Fill Primary		BW-19 07/29/08 Sand Primary	
Sample Depth			13.0-17.0 ft		22.0-24.0 ft		0.5-7.0 ft		7.0-10.0 ft		10.0-18.0 ft		0.0-5.75 ft		8.0-13.0 ft		13.0-17.75 ft		22.0-24.0 ft		0.0-7.5 ft		12.0-16.25 ft	
VOC Sample Depth			16.0-17.0 ft		23.0-24.0 ft		6.5-7.0 ft		9.0-10.0 ft		16.0-17.0 ft		5.0-5.75 ft		12.0-13.0 ft		17.0-17.75 ft		23.0-24.0 ft		7.0-7.5 ft		16.0-16.25 ft	
Semivolatile Organics																								
1,1'-Biphenyl	mg/Kg	34000	0.022	U	0.024	U	0.73	J	0.46	J	1.6		0.046	U	0.028	U	0.023	U	0.024	U	0.2	J	0.023	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.024	U	0.026	U	0.051	U	0.37	U	0.023	U	0.051	U	0.03	U	0.025	U	0.026	U	0.049	U	0.025	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.033	U	0.036	U	0.07	U	0.51	U	0.032	U	0.07	U	0.041	U	0.034	U	0.036	U	0.067	U	0.034	U
2,4,6-Trichlorophenol	mg/Kg	74	0.033	U	0.036	U	0.068	U	0.5	U	0.032	U	0.068	U	0.04	U	0.033	U	0.036	U	0.065	U	0.033	U
2,4-Dichlorophenol	mg/Kg	2100	0.22	J	0.013	U	0.59	J	0.39	J	0.23	J	0.025	U	0.015	U	0.16	J	0.013	U	0.024	U	0.012	U
2,4-Dimethylphenol	mg/Kg	14000	0.017	U	0.019	U	0.036	U	0.27	U	0.017	U	0.036	U	0.021	U	0.018	U	0.019	U	0.035	U	0.032	J
2,4-Dinitrophenol	mg/Kg	1400	0.48	U	0.52	U	1	U	7.3	U	0.46	U	1	U	0.59	U	0.49	U	0.52	U	0.96	U	0.49	U
2,4-Dinitrotoluene	mg/Kg	3	0.021	U	0.023	U	0.044	U	0.32	U	0.02	U	0.044	U	0.026	U	0.021	U	0.023	U	0.042	U	0.021	U
2,6-Dinitrotoluene	mg/Kg	3	0.026	U	0.028	U	0.054	U	0.4	U	0.025	U	0.054	U	0.032	U	0.027	U	0.028	U	0.052	U	0.027	U
2-Chloronaphthalene	mg/Kg	--	0.023	U	0.025	U	0.049	U	0.36	U	0.023	U	0.049	U	0.029	U	0.024	U	0.025	U	0.047	U	0.024	U
2-Chlorophenol	mg/Kg	2200	0.02	U	0.022	U	0.042	U	0.31	U	0.02	U	0.042	U	0.025	U	0.021	U	0.022	U	0.041	U	0.021	U
2-Methylnaphthalene	mg/Kg	2400	0.022	U	0.024	U	0.25	J	0.34	U	0.033	J	0.073	J	0.028	U	0.023	U	0.024	U	0.63	J	0.023	U
2-Methylphenol	mg/Kg	3400	0.025	U	0.028	U	0.053	U	0.39	U	0.024	U	0.053	U	0.031	U	0.026	U	0.028	U	0.051	U	0.026	U
2-Nitroaniline	mg/Kg	23000	0.024	U	0.026	U	0.051	U	0.37	U	0.023	U	0.051	U	0.03	U	0.025	U	0.026	U	0.049	U	0.025	U
2-Nitrophenol	mg/Kg	--	0.032	U	0.035	U	0.067	U	0.49	U	0.031	U	0.067	U	0.04	U	0.033	U	0.035	U	0.065	U	0.033	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.091	U	0.099	U	0.19	U	1.4	U	0.088	U	0.19	U	0.11	U	0.093	U	0.099	U	0.18	U	0.093	U
3-Nitroaniline	mg/Kg	--	0.035	U	0.038	U	0.072	U	0.53	U	0.034	U	0.072	U	0.043	U	0.035	U	0.038	U	0.07	U	0.035	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.29	U	0.31	U	0.59	U	4.4	U	0.28	U	0.59	U	0.35	U	0.29	U	0.31	U	0.57	U	0.29	U
4-Bromophenylphenyl ether	mg/Kg	--	0.018	U	0.02	U	0.038	U	0.28	U	0.018	U	0.038	U	0.022	U	0.019	U	0.02	U	0.036	U	0.019	U
4-Chloro-3-methylphenol	mg/Kg	--	0.025	U	0.027	U	0.051	U	0.38	U	0.024	U	0.051	U	0.03	U	0.025	U	0.027	U	0.049	U	0.025	U
4-Chloroaniline	mg/Kg	--	0.035	U	0.038	U	0.073	U	0.53	U	0.034	U	0.073	U	0.043	U	0.036	U	0.038	U	0.07	U	0.036	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.02	U	0.022	U	0.042	U	0.31	U	0.019	U	0.042	U	0.025	U	0.02	U	0.022	U	0.04	U	0.02	U
4-Methylphenol	mg/Kg	340	0.025	U	0.028	U	0.053	U	0.39	U	0.024	U	0.053	U	0.031	U	0.026	U	0.028	U	0.051	U	0.026	U
4-Nitroaniline	mg/Kg	--	0.017	U	0.019	U	0.035	U	0.26	U	0.022	J	0.035	U	0.021	U	0.017	U	0.019	U	0.034	U	0.017	U
4-Nitrophenol	mg/Kg	--	0.031	U	0.034	U	0.066	U	0.48	U	0.03	U	0.066	U	0.039	U	0.032	U	0.034	U	0.063	U	0.032	U
Acenaphthene	mg/Kg	37000	0.021	U	0.023	U	0.62	J	0.32	U	0.068	J	0.23	J	0.026	U	0.021	U	0.023	U	1.1		0.022	U
Acenaphthylene	mg/Kg	300000	0.024	U	0.026	U	0.088	J	0.36	U	0.023	U	0.34	J	0.029	U	0.024	U	0.026	U	0.84		0.024	U
Acetophenone	mg/Kg	5	0.025	U	0.027	U	0.051	U	0.38	U	0.024	U	0.051	U	0.03	U	0.025	U	0.027	U	0.049	U	0.025	U
Anthracene	mg/Kg	30000	0.023	U	0.025	U	1.5		0.43	J	0.078	J	2.6		0.028	U	0.023	U	0.025	U	16		0.033	J
Atrazine	mg/Kg	2400	0.028	U	0.03	U	0.058	U	0.43	U	0.027	U	0.058	U	0.034	U	0.028	U	0.03	U	0.056	U	0.028	U
Benzaldehyde	mg/Kg	68000	0.043	U	0.047	U	0.089	U	0.66	U	0.041	U	0.089	U	0.053	U	0.044	U	0.047	U	0.086	U	0.044	U
Benzo(a)anthracene	mg/Kg	2	0.016	U	0.017	U	4.5		1.2	J	0.17	J	5		0.02	U	0.016	U	0.017	U	12		0.12	J
Benzo(a)pyrene	mg/Kg	0.2	0.012	U	0.014	U	5.1		1.3	J	0.15	J	4.7		0.015	U	0.013	U	0.014	U	15		0.12	J
Benzo(b)fluoranthene	mg/Kg	2	0.016	U	0.017	U	6.4		1.5	J	0.21	J	6.5		0.019	U	0.016	U	0.017	U	21		0.18	J
Benzo(ghi)perylene	mg/Kg	30000	0.014	U	0.015	U	4.7		1	J	0.12	J	2.8		0.017	U	0.014	U	0.015	U	11		0.073	J
Benzo(k)fluoranthene	mg/Kg	23	0.013	U	0.014	U	0.027	U	0.2	U	0.013	U	0.027	U	0.016	U	0.013	U	0.014	U	0.026	U	0.013	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.019	U	0.021	U	0.039	U	0.29	U	0.018	U	0.039	U	0.023	U	0.019	U	0.021	U	0.038	U	0.019	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.0091	U	0.0099	U	0.019	U	0.14	U	0.0088	U	0.019	U	0.011	U	0.0093	U	0.0099	U	0.018	U	0.0093	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.031	U	0.034	U	0.13	J	0.47	U	0.11	J	0.065	U	0.038	U	0.13	J	0.034	U	0.062	U	0.061	J
Butyl benzyl phthalate	mg/Kg	14000	0.032	U	0.035	U	0.068	U	0.5	U	0.031	U	0.068	U	0.04	U	0.033	U	0.035	U	0.065	U	0.033	U
Caprolactam	mg/Kg	340000	0.077	U	0.083	U	0.16	U	1.2	U	0.074	U	0.16	U	0.095	U	0.078	U	0.083	U	0.15	U	0.078	U
Carbazole	mg/Kg	96	0.017	U	0.018	U	0.3	J	0.25	U	0.016	U	0.16	J	0.021	J	0.017	U	0.018	U	5.5		0.017	U
Chrysene	mg/Kg	230	0.016	U	0.017	U	4.5		0.92	J	0.17	J	5.1		0.02	U	0.016	U	0.017	U	11		0.096	J
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.026	U	0.028	U	0.95		0.39	U	0.029	J	0.63	J	0.032	U	0.026	U	0.028	U	2.6		0.026	U
Dibenzofuran	mg/Kg	--	0.022	U	0.024	U	0.49	J	0.34	U	0.053	J	0.15	J	0.028	U	0.023	U	0.024	U	1.1		0.023	U
Diethyl phthalate	mg/Kg	550000	0.036	U	0.039	U	0.084	J	0.55	U	0.035	U	0.075	U	0.045	U	0.037	U	0.039	U	0.072	U	0.037	U
Dimethyl phthalate	mg/Kg	--	0.023	U	0.025	U	0.048	U	0.35	U	0.022	U	0.048	U	0.028	U	0.023	U	0.025	U	0.046	U	0.023	U
Di-n-butyl phthalate	mg/Kg	68000	0.067	U	0.073	U	0.14	U	1	U	0.065	U	0.14	U	0.083	U	0.069	U	0.073	U	0.13	U	0.069	U
Di-n-octyl phthalate	mg/Kg	27000	0.028	U	0.031	U	0.059	U	0.43	U	0.027	U	0.059	U	0.035	U	0.029	U	0.031	U	0.057	U	0.029	U

TABLE 4-4

ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-17 07/24/08 Sand Primary		BW-17 07/24/08 Clay Primary		BW-18A 04/29/08 Fill Primary		BW-18A 04/29/08 Mat Primary		BW-18A 04/29/08 Sand Primary		BW-18B 07/25/08 Fill Primary		BW-18B 07/28/08 Mat Primary		BW-18B 07/28/08 Sand Primary		BW-18B 07/28/08 Clay Primary		BW-19 07/28/08 Fill Primary		BW-19 07/29/08 Sand Primary	
Sample Depth			13.0-17.0 ft		22.0-24.0 ft		0.5-7.0 ft		7.0-10.0 ft		10.0-18.0 ft		0.0-5.75 ft		8.0-13.0 ft		13.0-17.75 ft		22.0-24.0 ft		0.0-7.5 ft		12.0-16.25 ft	
VOC Sample Depth			16.0-17.0 ft		23.0-24.0 ft		6.5-7.0 ft		9.0-10.0 ft		16.0-17.0 ft		5.0-5.75 ft		12.0-13.0 ft		17.0-17.75 ft		23.0-24.0 ft		7.0-7.5 ft		16.0-16.25 ft	
Semivolatile Organics (Continued)																								
Fluoranthene	mg/Kg	24000	0.026	U	0.028	U	11		2.4	J	0.45		10		0.032	U	0.027	U	0.028	U	23		0.24	J
Fluorene	mg/Kg	24000	0.02	U	0.021	U	0.73	J	0.3	U	0.058	J	0.47	J	0.024	U	0.02	U	0.021	U	2.1		0.02	U
Hexachlorobenzene	mg/Kg	1	0.024	U	0.026	U	0.051	U	0.37	U	0.023	U	0.051	U	0.03	U	0.025	U	0.026	U	0.049	U	0.025	U
Hexachlorobutadiene	mg/Kg	25	0.025	U	0.027	U	0.052	U	0.38	U	0.024	U	0.052	U	0.031	U	0.025	U	0.027	U	0.05	U	0.025	U
Hexachlorocyclopentadiene	mg/Kg	110	0.019	U	0.02	U	0.039	U	0.28	U	0.018	U	0.039	U	0.023	U	0.019	U	0.02	U	0.037	U	0.019	U
Hexachloroethane	mg/Kg	140	0.018	U	0.02	U	0.038	U	0.28	U	0.017	U	0.038	U	0.022	U	0.018	U	0.02	U	0.036	U	0.019	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.014	U	0.016	U	3.8		0.89	J	0.11	J	2.4		0.018	U	0.015	U	0.016	U	9.1		0.076	J
Isophorone	mg/Kg	2000	0.023	U	0.025	U	0.047	U	0.34	U	0.022	U	0.047	U	0.028	U	0.023	U	0.025	U	0.045	U	0.023	U
Naphthalene	mg/Kg	17	0.035	J	0.021	U	1		0.3	U	0.058	J	1.3		0.076	J	0.22	J	0.021	U	2		0.02	U
Nitrobenzene	mg/Kg	340	0.01	U	0.011	U	0.021	U	0.15	U	0.0097	U	0.021	U	0.012	U	0.01	U	0.011	U	0.02	U	0.01	U
N-Nitrosodiphenylamine	mg/Kg	390	0.022	U	0.024	U	0.046	U	0.34	U	0.021	U	0.046	U	0.027	U	0.022	U	0.024	U	0.044	U	0.022	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.0099	U	0.011	U	0.021	U	0.15	U	0.0096	U	0.021	U	0.012	U	0.01	U	0.011	U	0.02	U	0.01	U
Pentachlorophenol	mg/Kg	10	0.03	U	0.033	U	0.063	U	0.46	U	0.029	U	0.063	U	0.037	U	0.031	U	0.033	U	0.06	U	0.031	U
Phenanthrene	mg/Kg	300000	0.019	U	0.021	U	4.6		1.3	J	0.31	J	6.2		0.05	J	0.02	U	0.021	U	12		0.086	J
Phenol	mg/Kg	210000	0.024	U	0.027	U	0.051	U	0.37	U	0.024	U	0.051	U	0.03	U	0.025	U	0.027	U	0.049	U	0.025	U
Pyrene	mg/Kg	18000	0.025	U	0.027	U	6.7		1.5	J	0.31	J	8.2		0.031	U	0.025	U	0.027	U	16		0.16	J
Polychlorinated Dioxins/Furans																								
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.00055	QJ	--		0.36		0.071		0.054		0.4		0.0075	U	0.00032	J	--		0.04	J	0.00024	J
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.034	B	--		0.76	B	0.09	B	0.062	B	2	B	0.0034	BJ	0.28	B	--		0.36		0.00094	QBJ
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.00095	J	--		0.025	J	0.0029	QJ	0.0022	J	0.049	J	0.0075	U	0.0099		--		0.0085	QJ	0.0062	U
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.0061	U	--		0.0055	J	0.00077	QJ	0.00052	QJ	0.0037	QJ	0.0075	U	0.00015	QJ	--		0.061	U	0.0062	U
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.0098		--		0.2	Q	0.023	J	0.017	Q	0.49	Q	0.0011	J	0.084	Q	--		0.085		0.00025	QJ
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.00018	QJ	--		0.018	J	0.0029	J	0.0026	QJ	0.013	J	0.0075	U	0.00043	QJ	--		0.0018	QJ	0.0062	U
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.0025	QJ	--		0.051	QJ	0.0052	J	0.0037	J	0.11	Q	0.0075	U	0.018	Q	--		0.02	QBJ	0.000086	QJ
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0061	U	--		0.015	J	0.003	J	0.0023	J	0.012	QJ	0.0075	U	0.00034	J	--		0.0014	QBJ	0.0062	U
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.00017	J	--		0.065	U	0.023	U	0.006	U	0.064	U	0.0075	U	0.00016	QJ	--		0.0017	BJ	0.0062	U
1,2,3,7,8-PCDD	ug/Kg	--	0.0061	U	--		0.0051	J	0.00058	U	0.00054	QJ	0.0057	QJ	0.0075	U	0.00024	J	--		0.061	U	0.0062	U
1,2,3,7,8-PCDF	ug/Kg	--	0.00031	QJ	--		0.011	J	0.00097	QJ	0.0009	QJ	0.019	J	0.0075	U	0.0021	QJ	--		0.0058	QJ	0.0062	U
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.0006	QJ	--		0.021	QBJ	0.0015	BJ	0.0011	BJ	0.033	J	0.0075	U	0.0043	J	--		0.0059	QJ	0.0062	U
2,3,4,7,8-PCDF	ug/Kg	--	0.0011	QJ	--		0.016	J	0.0013	QJ	0.0015	J	0.049	QJ	0.0075	U	0.0071	Q	--		0.01	J	0.0062	U
2,3,7,8-TCDD	ug/Kg	--	0.012	U	--		0.0018	QJ	0.00087	U	0.00019	U	0.013	U	0.0015	U	0.0012	U	--		0.0012	U	0.0012	U
2,3,7,8-TCDF	ug/Kg	--	0.00027	QJ	--		0.012	QJ	0.0019	QJ	0.0012	QJ	0.0066	QJ	0.0075	U	0.00041	QJ	--		0.0089	QJ	0.0012	U
OCDD	ug/Kg	--	0.0067	BJ	--		3.2	B	0.71	B	0.53	B	3.6	B	0.0046	BJ	0.038	B	--		0.44	B	0.0014	BJ
OCDF	ug/Kg	--	0.071	B	--		0.73	B	0.16	B	0.082	B	3	B	0.011	BJ	0.51	B	--		0.66	B	0.0022	QBJ
Total HpCDD	ug/Kg	--	0.0014	QJ	--		0.97		0.19		0.14		0.79		0.035	J	0.00074	QJ	--		0.086	BJ	0.00024	J
Total HpCDF	ug/Kg	--	0.038	B	--		0.9	QB	0.11	QB	0.078	B	2.2	B	0.0038	QBJ	0.32	B	--		0.41	Q	0.00094	QBJ
Total HxCDD	ug/Kg	--	0.0016	QJ	--		0.22	Q	0.042	QJ	0.03	Q	0.16	JQ	0.0075	U	0.00044	JQ	--		0.026	QBJ	0.0062	U
Total HxCDF	ug/Kg	--	0.029	Q	--		0.59	QB	0.06	QJB	0.05	Q	1.3	Q	0.0018	QJ	0.24	Q	--		0.26	QB	0.00056	QJ
Total PeCDD	ug/Kg	--	0.0061	U	--		0.044	QJ	0.0035	QJ	0.0033	QJ	0.069	QJ	0.0075	U	0.0042	JQ	--		0.014	QJ	0.0062	U
Total PeCDF	ug/Kg	--	0.014	JQ	--		0.3	Q	0.025	QJ	0.022	QJ	0.94	Q	0.0075	U	0.11	Q	--		0.14	JQB	0.0062	U
Total TCDD	ug/Kg	--	0.00074	QJ	--		0.019	QJ	0.0032	QJ	0.0014	QJ	0.053	Q	0.0015	U	0.0048	Q	--		0.022	QJ	0.0012	U
Total TCDF	ug/Kg	--	0.0083	Q	--		0.19	Q	0.013	QJ	0.0095	Q	0.88	Q	0.0075	U	0.072	Q	--		0.12	Q	0.0012	U
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																								
1,2,3,4,6,7,8-HpCDD	0.01	--	--		--		3.60E-03		7.10E-04		5.40E-04		4.00E-03		--		3.20E-06		--		4.00E-04		2.40E-06	
1,2,3,4,6,7,8-HpCDF	0.01	--	3.40E-04		--		7.60E-03		9.00E-04		6.20E-04		2.00E-02		3.40E-05		2.80E-03		--		3.60E-03		--	
1,2,3,4,7,8,9-HpCDF	0.01	--	9.50E-06		--		2.50E-04		--		2.20E-05		4.90E-04		--		9.90E-05		--		--		--	
1,2,3,4,7,8-HxCDD	0.10	--	--		--		5.50E-04		--		--		--		--		--		--		--		--	
1,2,3,4,7,8-HxCDF	0.10	--	9.80E-04		--		--		2.30E-03		--		--		1.10E-04		--		--		8.50E-03		--	
1,2,3,6,7,8-HxCDD	0.10	--	--		--		1.80E-03		2.90E-04		--		1.30E-03		--		--		--		--		--	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-17 07/24/08 Sand Primary	BW-17 07/24/08 Clay Primary	BW-18A 04/29/08 Fill Primary	BW-18A 04/29/08 Mat Primary	BW-18A 04/29/08 Sand Primary	BW-18B 07/25/08 Fill Primary	BW-18B 07/28/08 Mat Primary	BW-18B 07/28/08 Sand Primary	BW-18B 07/28/08 Clay Primary	BW-19 07/28/08 Fill Primary	BW-19 07/29/08 Sand Primary											
Sample Depth			13.0-17.0 ft	22.0-24.0 ft	0.5-7.0 ft	7.0-10.0 ft	10.0-18.0 ft	0.0-5.75 ft	8.0-13.0 ft	13.0-17.75 ft	22.0-24.0 ft	0.0-7.5 ft	12.0-16.25 ft											
VOC Sample Depth			16.0-17.0 ft	23.0-24.0 ft	6.5-7.0 ft	9.0-10.0 ft	16.0-17.0 ft	5.0-5.75 ft	12.0-13.0 ft	17.0-17.75 ft	23.0-24.0 ft	7.0-7.5 ft	16.0-16.25 ft											
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continu																								
1,2,3,6,7,8-HxCDF	0.10	--	--		--		--		5.20E-04		3.70E-04		--		--		--		--		--			
1,2,3,7,8,9-HxCDD	0.10	--	--		--		1.50E-03		3.00E-04		2.30E-04		--		--		3.40E-05		--		--			
1,2,3,7,8,9-HxCDF	0.10	--	1.70E-05		--		--		--		--		--		--		--		1.70E-04		--			
1,2,3,7,8-PCDD	1.00	--	--		--		5.10E-03		--		--		--		--		2.40E-04		--		--			
1,2,3,7,8-PCDF	0.05	--	--		--		5.50E-04		--		9.50E-04		--		--		--		--		--			
2,3,4,6,7,8-HxCDF	0.10	--	--		--		--		1.50E-04		1.10E-04		3.30E-03		--		4.30E-04		--		--			
2,3,4,7,8-PCDF	0.50	--	--		--		8.00E-03		--		7.50E-04		--		--		--		5.00E-03		--			
2,3,7,8-TCDD	1.00	--	--		--		--		--		--		--		--		--		--		--			
2,3,7,8-TCDF	0.10	--	--		--		--		--		--		--		--		--		--		--			
OCDD	0.0001	--	6.70E-07		--		3.20E-04		7.10E-05		5.30E-05		3.60E-04		4.60E-07		3.80E-06		--		4.40E-05		1.40E-07	
OCDF	0.0001	--	7.10E-06		--		7.30E-05		1.60E-05		8.20E-06		3.00E-04		1.10E-06		5.10E-05		--		6.60E-05		--	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	1.35E-03		--		2.93E-02		5.26E-03		2.70E-03		3.07E-02		1.46E-04		3.66E-03		--		1.78E-02		2.54E-06	
Polychlorinated Biphenyls (Aroclors)																								
Aroclor 1016	mg/Kg	1	0.003	U	--		0.0032	U	0.012	U	0.003	U	0.0032	U	0.0037	U	0.0031	U	--		0.003	U	0.0031	U
Aroclor 1221	mg/Kg	1	0.0039	U	--		0.0041	U	0.015	U	0.0038	U	0.004	U	0.0047	U	0.004	U	--		0.0039	U	0.004	U
Aroclor 1232	mg/Kg	1	0.0035	U	--		0.0036	U	0.013	U	0.0034	U	0.0036	U	0.0043	U	0.0036	U	--		0.0035	U	0.0036	U
Aroclor 1242	mg/Kg	1	0.0033	U	--		0.0035	U	0.013	U	0.0032	U	0.0035	U	0.0041	U	0.0034	U	--		0.0033	U	0.0034	U
Aroclor 1248	mg/Kg	1	0.0019	U	--		0.002	U	0.0074	U	0.0019	U	0.002	U	0.0024	U	0.002	U	--		0.0019	U	0.002	U
Aroclor 1254	mg/Kg	1	0.0029	U	--		0.003	U	0.011	U	0.0028	U	0.2		0.0035	U	0.003	U	--		0.0029	U	0.003	U
Aroclor 1260	mg/Kg	1	0.0029	U	--		0.003	U	0.011	U	0.0028	U	0.11		0.0035	U	0.003	U	--		0.0029	U	0.003	U
Aroclor 1262	mg/Kg	1	0.0045	U	--		0.0047	U	0.017	U	0.0043	U	0.0046	U	0.0054	U	0.0046	U	--		0.0045	U	0.0046	U
Aroclor 1268	mg/Kg	1	0.0026	U	--		0.0027	U	0.01	U	0.0025	U	0.0027	U	0.0032	U	0.0027	U	--		0.0026	U	0.0027	U
Metals																								
Aluminum	mg/Kg	--	4020		13600		4520	J	1600	J	2980	J	6740		2920	J	4870	J	10100	J	2680	J	3310	J
Antimony	mg/Kg	450	0.11	U	0.12	U	19.5		4.8		0.11	U	1.9		0.14	U	0.11	U	0.22	BJ	1.1	BJ	0.11	U
Arsenic	mg/Kg	19	1.8		8.2		54.9		11.5		1.2		14.7		0.72	B	2.1		5.1		10.5		3.1	
Barium	mg/Kg	59000	15.5	B	85.7		119		46.3	B	15.6	B	134		22.9	B	28.5		71.5		64		15.7	B
Beryllium	mg/Kg	140	0.31	B	0.84		0.51	B	0.14	U	0.25	B	0.49	B	0.21	B	0.44	B	0.79		0.49		0.34	B
Cadmium	mg/Kg	78	0.13	B	0.52	B	0.061	U	0.22	U	0.056	U	1.3		0.071	U	0.058	U	0.062	U	0.057	U	0.059	U
Calcium	mg/Kg	--	550	B	6220		3810		19900		558	B	11800		2160		621	B	6020		1550		534	B
Chromium ⁽³⁾	mg/Kg	120000	8.7		21.8		168	J	28.7	J	8.1	J	378		18.5		12.3		17.6		107		8.9	
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	0.4	U	0.4	U	13.4		0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Cobalt	mg/Kg	590	4.3	B	12.9		7.9		1.2	B	2.5	B	16.9		1.1	B	3.7	B	10.3		4.9	B	3.3	B
Copper	mg/Kg	45000	5.9		26.7		59.1		11.9		5.7		195		2.5	B	6.7		20.4		57.4		6.3	
Iron	mg/Kg	--	9490		31600		37300	J	13300	J	8180	J	35100	J	4000		11800		24300		18700		11300	
Lead	mg/Kg	800	3.1		13.3		3730		346		3.6		213		3	JB	3.8	J	12.1	J	88.6	J	2.8	J
Magnesium	mg/Kg	--	1370		8190		1710		3360		1110		5080		1540		1570		6790		740		1370	
Manganese	mg/Kg	5900	66.8		629		107		229		37.5		526	J	114		58.5		541		132		61.3	
Mercury	mg/Kg	65	0.0087	U	0.02	B	0.87		0.36		0.0085	U	0.74		0.014	B	0.0089	U	NA		0.29		0.0089	U
Nickel	mg/Kg	23000	7.3		27.8		21.5		4.6	B	6		65.4		3	B	8.4	J	22	J	14.7	J	7.3	J
Potassium	mg/Kg	--	356	B	1840		581	B	409	B	325	B	515	B	237	B	396	B	1400		286	B	343	B
Selenium	mg/Kg	5700	0.35	U	0.38	U	3.7		2.5		0.34	U	0.86		0.43	U	0.36	U	0.38	U	0.98		0.36	U
Silver	mg/Kg	5700	0.045	U	0.19	B	0.34	B	0.17	U	0.044	U	0.65		0.056	U	0.046	U	0.06	B	0.16	B	0.046	U
Sodium	mg/Kg	--	193	B	282	B	153	B	1540	B	58.6	B	292	B	919		155	B	444	B	210	B	218	B
Thallium	mg/Kg	79	0.39	U	0.43	U	1.7		1.5	U	0.38	U	0.67	B	0.48	U	0.4	U	0.43	U	0.39	U	0.4	U
Vanadium	mg/Kg	1100	11.7		26.7		44.5		10.3	B	12		127		7.3	B	18		22.2		34.2		12.2	
Zinc	mg/Kg	110000	17.7		69		250		50.1		39.8		449		8.7	J	21	J	56.3	J	74	J	16.8	J

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-17 07/24/08 Sand Primary				BW-17 07/24/08 Clay Primary				BW-18A 04/29/08 Fill Primary				BW-18A 04/29/08 Mat Primary				BW-18A 04/29/08 Sand Primary				BW-18B 07/25/08 Fill Primary				BW-18B 07/28/08 Mat Primary				BW-18B 07/28/08 Sand Primary				BW-18B 07/28/08 Clay Primary				BW-19 07/28/08 Fill Primary				BW-19 07/29/08 Sand Primary							
Sample Depth			13.0-17.0 ft				22.0-24.0 ft				0.5-7.0 ft				7.0-10.0 ft				10.0-18.0 ft				0.0-5.75 ft				8.0-13.0 ft				13.0-17.75 ft				22.0-24.0 ft				0.0-7.5 ft				12.0-16.25 ft							
VOC Sample Depth			16.0-17.0 ft				23.0-24.0 ft				6.5-7.0 ft				9.0-10.0 ft				16.0-17.0 ft				5.0-5.75 ft				12.0-13.0 ft				17.0-17.75 ft				23.0-24.0 ft				7.0-7.5 ft				16.0-16.25 ft							
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																																																		
1,1-Dichloroethene	mg/L	0.7	0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--			0.035	U	0.035	U				0.035	U	0.035	U																		
1,2-Dichloroethane	mg/L	0.5	0.026	U	--		0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	--			0.026	U	0.026	U				0.026	U	0.026	U																		
1,4-Dichlorobenzene	mg/L	7.5	0.81		--		2.7		4.3		2.2		0.0046	U	0.022	J	27		--			0.028	J	0.0046	U				0.028	J	0.0046	U																		
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	--		0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	--			0.0041	U	0.0041	U				0.0041	U	0.0041	U																		
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	--		0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	--			0.0026	U	0.0026	U				0.0026	U	0.0026	U																		
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	--		0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	--			0.0028	U	0.0028	U				0.0028	U	0.0028	U																		
2-Butanone	mg/L	200	0.029	U	--		0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	--			0.029	U	0.029	U				0.029	U	0.029	U																		
Benzene	mg/L	0.5	0.033	U	--		0.071	J	0.072	J	0.033	U	0.033	U	0.033	U	0.033	U	--			0.033	U	0.033	U				0.033	U	0.033	U																		
Carbon Tetrachloride	mg/L	0.5	0.037	U	--		0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	--			0.037	U	0.037	U				0.037	U	0.037	U																		
Chlorobenzene	mg/L	100	0.028	U	--		3.4		5.3		0.17	J	0.028	U	0.028	U	0.2		--			0.028	U	0.028	U				0.028	U	0.028	U																		
Chloroform	mg/L	6	0.031	U	--		0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	--			0.031	U	0.031	U				0.031	U	0.031	U																		
Cresols	mg/L	200	0.0089	U	--		0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	--			0.0089	U	0.0089	U				0.0089	U	0.0089	U																		
Hexachlorobenzene	mg/L	0.13	0.0049	U	--		0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	--			0.0049	U	0.0049	U				0.0049	U	0.0049	U																		
Hexachlorobutadiene	mg/L	0.5	0.0033	U	--		0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	--			0.0033	U	0.0033	U				0.0033	U	0.0033	U																		
Hexachloroethane	mg/L	3	0.0036	U	--		0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	--			0.0036	U	0.0036	U				0.0036	U	0.0036	U																		
Nitrobenzene	mg/L	2	0.0056	U	--		0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	--			0.0056	U	0.0056	U				0.0056	U	0.0056	U																		
Pentachlorophenol	mg/L	100	0.005	U	--		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	--			0.005	U	0.005	U				0.005	U	0.005	U																		
Pyridine	mg/L	5	0.011	U	--		0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	--			0.011	U	0.011	U				0.011	U	0.011	U																		
Tetrachloroethene	mg/L	0.7	0.023	U	--		0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	--			0.023	U	0.023	U				0.023	U	0.023	U																		
Trichloroethene	mg/L	0.5	0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--			0.035	U	0.035	U				0.035	U	0.035	U																		
Vinyl chloride	mg/L	0.2	0.038	U	--		0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	--			0.038	U	0.038	U				0.038	U	0.038	U																		
Arsenic	mg/L	5	0.18	B	--		0.025	B	0.0072	B	0.0028	B	0.15	B	0.14	B	0.2	B	--			0.2	B	0.19	B				0.2	B	0.19	B																		
Barium	mg/L	100	0.22	BJ	--		1.3	BJ	0.15	BJ	0.29	B	0.79	BJ	0.089	BJ	0.29	BJ	--			0.23	BJ	0.25	BJ				0.23	BJ	0.25	BJ																		
Cadmium	mg/L	1	0.0012	U	--		0.0054	B	0.00023	U	0.00023	U	0.0061	B	0.0012	U	0.0012	U	--			0.0012	U	0.0012	U				0.0012	U	0.0012	U																		
Chromium	mg/L	5	0.015	B	--		0.013	B	0.003	B	0.0041	B	0.027	B	0.0025	B	0.0041	B	--			0.0078	B	0.003	B				0.0078	B	0.003	B																		
Lead	mg/L	5	0.013	U	--		16.1		0.021	B	0.0043	B	0.11	B	0.013	U	0.013	U	--			0.013	U	0.013	U				0.013	U	0.013	U																		
Mercury	mg/L	0.2	0.000055	U	--		0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	--			0.000083	B	0.000055	U				0.000083	B	0.000055	U																		
Selenium	mg/L	1	0.015	U	--		0.0092	B	0.0092	B	0.0081	B	0.015	U	0.015	U	0.015	U	--			0.015	U	0.015	U				0.015	U	0.015	U																		
Silver	mg/L	5	0.0025	U	--		0.00088	B	0.00081	B	0.00059	U	0.0025	U	0.0025	U	0.0025	U	--			0.0025	U	0.0025	U				0.0025	U	0.0025	U																		
RCRA Characteristics and Indicators																																																		
Corrosivity (pH)	SU	2<pH<12.5	7.25		--		7.44		7.21		6.5		8.53		7.43		6.54		--			7.83		5.23					7.83		5.23																			
Cyanide	mg/Kg	23000	0.12	U	--		0.12	U	0.45	U	0.11	U	0.56	B	0.14	U	0.12	U	--			0.41	B	0.7	J				0.41	B	0.7	J																		
Total Sulfide (Reactivity)	mg/Kg	--	58.5		--		217		224		38.1		366		18.5	U	15.3	U	--			15	U	15.3	U				15	U	15.3	U																		
Ignitability	None	--	No		--		No		No		No		No		No		No		--			No		No					No		No																			
Oxidation Reduction Potential	mV	--	599		605		300		314		328		436		609		584		583			554		492					554		492																			
Percent Solids	%	--	82		75.3		77.5		21.4		84		78.6		66.4		80.2		75.3			81.8		80.1					81.8		80.1																			

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-19 07/29/08 Sand Duplicate		BW-19 07/29/08 Clay Primary		BW-20 07/24/08 Fill Primary		BW-20 07/25/08 Mat Primary		BW-20 07/25/08 Sand Primary		BW-20 07/25/08 Clay Primary		BW-21 07/29/08 Fill Primary		BW-21 07/29/08 Mat Primary		BW-21 07/29/08 Sand Primary		
Sample Depth			12.0-16.25 ft		22.0-24.0 ft		0.0-4.0 ft		6.0-10.0 ft		10.0-15.25 ft		24.0-26.0 ft		0.0-6.0 ft		8.0-10.5 ft		10.5-16.0 ft		
VOC Sample Depth			16.0-16.25 ft		23.0-24.0 ft		2.0-3.0 ft		8.0-9.0 ft		15.0-15.25 ft		25.0-26.0 ft		5.0-6.0 ft		10.0-10.5 ft		15.0-16.0 ft		
Volatile Organics																					
1,1,1-Trichloroethane	mg/Kg	4200	0.06	U	0.00061	U	16	U	0.2	U	23	U	0.056	U	0.00051	U	0.00063	U	0.00052	U	
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.067	U	0.0009	U	18	U	0.23	U	26	U	0.063	U	0.00075	U	0.00093	U	0.00077	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	6	0.063	U	0.001	U	17	U	0.21	U	24	U	0.059	U	0.00087	U	0.0011	U	0.00089	U	
1,1,2-Trichloroethane	mg/Kg	--	0.073	U	0.0013	U	19	U	0.25	U	28	U	0.068	U	0.0011	U	0.0014	U	0.0011	U	
1,1-Dichloroethane	mg/Kg	24	0.058	U	0.00072	U	15	U	0.2	U	22	U	0.054	U	0.0006	U	0.00075	U	0.00062	U	
1,1-Dichloroethene	mg/Kg	150	0.069	U	0.0011	U	18	U	0.24	U	27	U	0.065	U	0.00089	U	0.0011	U	0.00091	U	
1,2,4-Trichlorobenzene	mg/Kg	820	0.061	U	0.0011	U	16	U	0.21	U	58	J	0.057	U	0.00092	U	0.0011	U	0.00094	U	
1,2-Dibromoethane	mg/Kg	0.04	0.062	U	0.0011	U	16	U	0.21	U	24	U	0.057	U	0.0009	U	0.0011	U	0.00092	U	
1,2-Dichlorobenzene	mg/Kg	59000	0.76		0.001	U	17	U	0.5	J	2600		0.51		0.00083	U	0.001	U	0.00085	U	
1,2-Dichloroethane	mg/Kg	3	0.065	U	0.00077	U	17	U	0.22	U	25	U	0.06	U	0.00064	U	0.0008	U	0.00066	U	
1,2-Dichloropropane	mg/Kg	5	0.066	U	0.00068	U	17	U	0.22	U	25	U	0.061	U	0.00057	U	0.0007	U	0.00058	U	
1,3-Dichlorobenzene	mg/Kg	59000	0.63		0.00083	U	16	U	0.53	J	2900		0.58		0.00068	U	0.00085	U	0.0007	U	
1,4-Dichlorobenzene	mg/Kg	13	0.98		0.0008	U	17	U	0.69	J	3400		0.66		0.00066	U	0.00083	U	0.00068	U	
2-Butanone	mg/Kg	44000	0.058	U	0.0011	U	15	U	0.2	U	22	U	0.054	U	0.00092	U	0.0011	U	0.00094	U	
2-Hexanone	mg/Kg	--	0.047	U	0.00087	U	12	U	0.16	U	18	U	0.044	U	0.00072	U	0.0009	U	0.00074	U	
4-Methyl-2-pentanone	mg/Kg	--	0.051	U	0.00082	U	19	U	0.24	U	27	U	0.066	U	0.00068	U	0.00085	U	0.0007	U	
Acetone	mg/Kg	--	0.071	U	0.0063	U	19	U	24		27	U	0.066	U	0.0052	U	0.0065	U	0.0054	U	
Benzene	mg/Kg	5	0.061	U	0.00085	U	120		1.2		24	U	0.057	U	0.0007	U	0.00088	U	0.00072	U	
Bromodichloromethane	mg/Kg	3	0.058	U	0.00071	U	15	U	0.2	U	22	U	0.054	U	0.00059	U	0.00073	U	0.0006	U	
Bromoform	mg/Kg	280	0.06	U	0.00056	U	16	U	0.2	U	23	U	0.056	U	0.00046	U	0.00057	U	0.00047	U	
Bromomethane	mg/Kg	59	0.075	U	0.00093	U	20	U	0.25	U	29	U	0.07	U	0.00077	U	0.00096	U	0.00079	U	
Carbon disulfide	mg/Kg	110000	0.073	U	0.00064	U	19	U	0.25	U	28	U	0.068	U	0.00053	U	0.00066	U	0.00055	U	
Carbon tetrachloride	mg/Kg	2	0.053	U	0.00056	U	14	U	0.18	U	21	U	0.049	U	0.00047	U	0.00058	U	0.00048	U	
Chlorobenzene	mg/Kg	7400	0.066	U	0.00095	U	17	U	0.22	U	32	J	0.061	U	0.00079	U	0.00098	U	0.00081	U	
Chloroethane	mg/Kg	1100	0.085	U	0.002	U	22	U	0.29	U	33	U	0.079	U	0.0016	U	0.002	U	0.0017	U	
Chloroform	mg/Kg	2	0.063	U	0.00074	U	17	U	0.21	U	24	U	0.058	U	0.00061	U	0.00076	U	0.00063	U	
Chloromethane	mg/Kg	12	0.066	U	0.0011	U	17	U	0.22	U	25	U	0.061	U	0.00089	U	0.0011	U	0.00091	U	
cis-1,2-Dichloroethene	mg/Kg	560	0.064	U	0.00089	U	17	U	0.22	U	25	U	0.06	U	0.00073	U	0.00091	U	0.00075	U	
cis-1,3-Dichloropropene	mg/Kg	7	0.053	U	0.00085	U	14	U	0.18	U	21	U	0.05	U	0.00071	U	0.00088	U	0.00073	U	
Cyclohexane	mg/Kg	--	0.059	U	0.00047	U	16	U	0.2	U	23	U	0.055	U	0.00039	U	0.00048	U	0.0004	U	
Dibromochloromethane	mg/Kg	--	0.055	U	0.00089	U	14	U	0.19	U	21	U	0.051	U	0.00074	U	0.00092	U	0.00076	U	
Dibromochloropropane	mg/Kg	8	0.05	U	0.00094	U	13	U	0.17	U	19	U	0.046	U	0.00078	U	0.00097	U	0.0008	U	
Dichlorodifluoromethane	mg/Kg	230000	0.076	U	0.00084	U	20	U	0.26	U	29	U	0.07	U	0.00069	U	0.00086	U	0.00071	U	
Ethylbenzene	mg/Kg	110000	0.07	U	0.00081	U	18	U	0.24	U	27	U	0.065	U	0.00067	U	0.00083	U	0.00069	U	
Isopropylbenzene	mg/Kg	--	0.063	U	0.00085	U	17	U	0.22	U	25	U	0.059	U	0.00071	U	0.00088	U	0.00073	U	
Methyl acetate	mg/Kg	--	0.063	U	0.0011	U	17	U	0.21	U	24	U	0.059	U	0.00094	U	0.0012	U	0.00096	U	
Methylcyclohexane	mg/Kg	--	0.066	U	0.00091	U	17	U	0.23	U	26	U	0.062	U	0.00076	U	0.00094	U	0.00078	U	
Methylene chloride	mg/Kg	97	0.047	J	0.00085	U	12	U	0.15	U	18	U	0.042	U	0.0007	U	0.00087	U	0.0023	J	
Methyltert-butylether	mg/Kg	320	0.055	U	0.00094	U	14	U	0.19	U	21	U	0.051	U	0.00078	U	0.00097	U	0.0008	U	
Styrene	mg/Kg	260	0.066	U	0.00067	U	17	U	0.22	U	26	U	0.061	U	0.00055	U	0.00069	U	0.00057	U	
Tetrachloroethene	mg/Kg	5	0.077	U	0.00086	U	20	U	0.26	U	30	U	0.072	U	0.00071	U	0.00088	U	0.00073	U	
Toluene	mg/Kg	91000	0.047	U	0.00092	U	75	J	0.84	J	18	U	0.044	U	0.00076	U	0.00095	U	0.00078	U	
trans-1,2-Dichloroethene	mg/Kg	720	0.069	U	0.00075	U	18	U	0.23	U	27	U	0.064	U	0.00062	U	0.00077	U	0.00064	U	
trans-1,3-Dichloropropene	mg/Kg	7	0.052	U	0.00075	U	14	U	0.18	U	20	U	0.048	U	0.00062	U	0.00078	U	0.00064	U	
Trichloroethene	mg/Kg	20	0.066	U	0.00083	U	17	U	0.23	U	26	U	0.062	U	0.00069	U	0.00085	U	0.0007	U	
Trichlorofluoromethane	mg/Kg	340000	0.096	U	0.0012	U	25	U	0.33	U	37	U	0.089	U	0.00096	U	0.0012	U	0.00098	U	
Vinyl chloride	mg/Kg	2	0.066	U	0.00059	U	17	U	0.22	U	26	U	0.062	U	0.00049	U	0.00061	U	0.0005	U	
Xylene (total)	mg/Kg	170000	0.21	U	0.0028	U	96	J	1.3	J	81	U	0.19	U	0.0023	U	0.0029	U	0.0024	U	

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-19 07/29/08 Sand Duplicate		BW-19 07/29/08 Clay Primary		BW-20 07/24/08 Fill Primary		BW-20 07/25/08 Mat Primary		BW-20 07/25/08 Sand Primary		BW-20 07/25/08 Clay Primary		BW-21 07/29/08 Fill Primary		BW-21 07/29/08 Mat Primary		BW-21 07/29/08 Sand Primary	
Sample Depth			12.0-16.25 ft		22.0-24.0 ft		0.0-4.0 ft		6.0-10.0 ft		10.0-15.25 ft		24.0-26.0 ft		0.0-6.0 ft		8.0-10.5 ft		10.5-16.0 ft	
VOC Sample Depth			16.0-16.25 ft		23.0-24.0 ft		2.0-3.0 ft		8.0-9.0 ft		15.0-15.25 ft		25.0-26.0 ft		5.0-6.0 ft		10.0-10.5 ft		15.0-16.0 ft	
Semivolatile Organics																				
1,1'-Biphenyl	mg/Kg	34000	0.023	U	0.024	U	66		18	J	0.56		0.024	U	0.11	J	0.03	U	0.023	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.025	U	0.026	U	1.1	U	2.5	U	0.024	U	0.026	U	0.055	U	0.032	U	0.025	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.034	U	0.036	U	1.6	U	3.4	U	0.033	U	0.035	U	0.076	U	0.044	U	0.035	U
2,4,6-Trichlorophenol	mg/Kg	74	0.033	U	0.035	U	1.5	U	3.3	U	0.032	U	0.035	U	0.074	U	0.043	U	0.034	U
2,4-Dichlorophenol	mg/Kg	2100	0.012	U	0.013	U	0.57	U	1.2	U	0.29	J	0.013	U	0.027	U	0.016	U	0.012	U
2,4-Dimethylphenol	mg/Kg	14000	0.046	J	0.019	U	28		9.3	J	2.2		0.018	U	0.092	J	0.036	J	0.018	U
2,4-Dinitrophenol	mg/Kg	1400	0.48	U	0.51	U	23	U	49	U	0.47	U	0.51	U	1.1	U	0.64	U	0.5	U
2,4-Dinitrotoluene	mg/Kg	3	0.021	U	0.022	U	0.99	U	2.1	U	0.021	U	0.022	U	0.047	U	0.028	U	0.022	U
2,6-Dinitrotoluene	mg/Kg	3	0.026	U	0.028	U	1.2	U	2.7	U	0.026	U	0.028	U	0.059	U	0.035	U	0.027	U
2-Chloronaphthalene	mg/Kg	--	0.024	U	0.025	U	1.1	U	2.4	U	0.023	U	0.025	U	0.053	U	0.031	U	0.024	U
2-Chlorophenol	mg/Kg	2200	0.021	U	0.022	U	0.96	U	2.1	U	0.02	U	0.022	U	0.046	U	0.027	U	0.021	U
2-Methylnaphthalene	mg/Kg	2400	0.023	U	0.024	U	370		95		2.8		0.024	U	0.5	J	0.038	J	0.023	U
2-Methylphenol	mg/Kg	3400	0.026	U	0.027	U	21		8.1	J	0.025	U	0.027	U	0.11	J	0.034	U	0.026	U
2-Nitroaniline	mg/Kg	23000	0.025	U	0.026	U	1.1	U	2.5	U	0.024	U	0.026	U	0.055	U	0.032	U	0.025	U
2-Nitrophenol	mg/Kg	--	0.033	U	0.034	U	1.5	U	3.3	U	0.032	U	0.034	U	0.073	U	0.043	U	0.033	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.092	U	0.097	U	4.3	U	9.3	U	0.09	U	0.096	U	0.21	U	0.12	U	0.094	U
3-Nitroaniline	mg/Kg	--	0.035	U	0.037	U	1.6	U	3.6	U	0.034	U	0.037	U	0.079	U	0.046	U	0.036	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.29	U	0.3	U	13	U	29	U	0.28	U	0.3	U	0.65	U	0.38	U	0.3	U
4-Bromophenylphenyl ether	mg/Kg	--	0.018	U	0.019	U	0.86	U	1.9	U	0.018	U	0.019	U	0.041	U	0.024	U	0.019	U
4-Chloro-3-methylphenol	mg/Kg	--	0.025	U	0.026	U	1.2	U	2.5	U	0.024	U	0.026	U	0.056	U	0.033	U	0.026	U
4-Chloroaniline	mg/Kg	--	0.035	U	0.037	U	1.6	U	3.6	U	0.034	U	0.037	U	0.079	U	0.046	U	0.036	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.02	U	0.021	U	0.95	U	2	U	0.02	U	0.021	U	0.045	U	0.027	U	0.021	U
4-Methylphenol	mg/Kg	340	0.026	U	0.027	U	54		22	J	0.025	U	0.027	U	0.18	J	0.034	U	0.026	U
4-Nitroaniline	mg/Kg	--	0.017	U	0.018	U	0.8	U	1.7	U	0.017	U	0.018	U	0.039	U	0.023	U	0.018	U
4-Nitrophenol	mg/Kg	--	0.032	U	0.034	U	1.5	U	3.2	U	0.031	U	0.033	U	0.072	U	0.042	U	0.033	U
Acenaphthene	mg/Kg	37000	0.021	U	0.022	U	240		44		0.94		0.022	U	0.21	J	0.028	U	0.022	U
Acenaphthylene	mg/Kg	300000	0.024	U	0.025	U	360		170		0.65		0.025	U	0.97		0.031	U	0.024	U
Acetophenone	mg/Kg	5	0.025	U	0.026	U	1.2	U	2.5	U	0.024	U	0.026	U	0.063	J	0.033	U	0.025	U
Anthracene	mg/Kg	30000	0.063	J	0.024	U	390		120		0.64		0.024	U	1.4		0.08	J	0.024	U
Atrazine	mg/Kg	2400	0.028	U	0.03	U	1.3	U	2.9	U	0.027	U	0.03	U	0.063	U	0.037	U	0.029	U
Benzaldehyde	mg/Kg	68000	0.043	U	0.046	U	2	U	4.4	U	0.042	U	0.046	U	0.097	U	0.057	U	0.044	U
Benzo(a)anthracene	mg/Kg	2	0.11	J	0.017	U	400		110		0.67		0.017	U	7.2		0.17	J	0.017	U
Benzo(a)pyrene	mg/Kg	0.2	0.08	J	0.013	U	330		90		0.53		0.013	U	7.6		0.17	J	0.013	U
Benzo(b)fluoranthene	mg/Kg	2	0.12	J	0.017	U	470		140		0.72		0.016	U	12		0.19	J	0.016	U
Benzo(ghi)perylene	mg/Kg	30000	0.037	J	0.015	U	180		49		0.33	J	0.015	U	6.4		0.059	J	0.014	U
Benzo(k)fluoranthene	mg/Kg	23	0.013	U	0.014	U	0.61	U	1.3	U	0.013	U	0.014	U	0.029	U	0.017	U	0.013	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.019	U	0.02	U	0.89	U	1.9	U	0.019	U	0.02	U	0.043	U	0.025	U	0.02	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.0092	U	0.0097	U	0.43	U	0.93	U	0.009	U	0.0097	U	0.021	U	0.012	U	0.0094	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.49		0.033	U	1.5	U	3.2	U	0.031	U	0.033	U	0.07	U	0.1	J	0.032	U
Butyl benzyl phthalate	mg/Kg	14000	0.033	U	0.035	U	1.5	U	3.3	U	0.032	U	0.034	U	0.074	U	0.043	U	0.034	U
Caprolactam	mg/Kg	340000	0.078	U	0.082	U	3.6	U	7.8	U	0.075	U	0.081	U	0.17	U	0.1	U	0.079	U
Carbazole	mg/Kg	96	0.02	J	0.018	U	190		58		0.31	J	0.018	U	0.7	J	0.047	J	0.017	U
Chrysene	mg/Kg	230	0.08	J	0.017	U	320		97		0.5		0.017	U	7		0.19	J	0.017	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.026	U	0.027	U	52		13	J	0.084	J	0.027	U	1.3		0.034	U	0.027	U
Dibenzofuran	mg/Kg	--	0.023	U	0.024	U	350		93		0.9		0.024	U	0.43	J	0.03	U	0.023	U
Diethyl phthalate	mg/Kg	550000	0.037	U	0.038	U	1.7	U	3.7	U	0.036	U	0.038	U	0.082	U	0.048	U	0.037	U
Dimethyl phthalate	mg/Kg	--	0.023	U	0.024	U	1.1	U	2.3	U	0.023	U	0.024	U	0.052	U	0.03	U	0.024	U
Di-n-butyl phthalate	mg/Kg	68000	0.068	U	0.071	U	3.2	U	6.9	U	0.066	U	0.071	U	0.15	U	0.089	U	0.069	U
Di-n-octyl phthalate	mg/Kg	27000	0.029	U	0.03	U	1.3	U	2.9	U	0.028	U	0.03	U	0.064	U	0.038	U	0.029	U

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-19 07/29/08 Sand Duplicate		BW-19 07/29/08 Clay Primary		BW-20 07/24/08 Fill Primary		BW-20 07/25/08 Mat Primary		BW-20 07/25/08 Sand Primary		BW-20 07/25/08 Clay Primary		BW-21 07/29/08 Fill Primary		BW-21 07/29/08 Mat Primary		BW-21 07/29/08 Sand Primary		
Sample Depth			12.0-16.25 ft		22.0-24.0 ft		0.0-4.0 ft		6.0-10.0 ft		10.0-15.25 ft		24.0-26.0 ft		0.0-6.0 ft		8.0-10.5 ft		10.5-16.0 ft		
VOC Sample Depth			16.0-16.25 ft		23.0-24.0 ft		2.0-3.0 ft		8.0-9.0 ft		15.0-15.25 ft		25.0-26.0 ft		5.0-6.0 ft		10.0-10.5 ft		15.0-16.0 ft		
Semivolatile Organics (Continued)																					
Fluoranthene	mg/Kg	24000	0.27	J	0.028	U	1300		310		1.9		0.028	U	11		0.28	J	0.027	U	
Fluorene	mg/Kg	24000	0.02	U	0.021	U	570		150		1		0.021	U	0.38	J	0.026	U	0.02	U	
Hexachlorobenzene	mg/Kg	1	0.025	U	0.026	U	1.1	U	2.5	U	0.024	U	0.026	U	0.055	U	0.032	U	0.025	U	
Hexachlorobutadiene	mg/Kg	25	0.025	U	0.026	U	1.2	U	2.5	U	0.024	U	0.026	U	0.056	U	0.033	U	0.026	U	
Hexachlorocyclopentadiene	mg/Kg	110	0.019	U	0.02	U	0.88	U	1.9	U	0.018	U	0.02	U	0.042	U	0.025	U	0.019	U	
Hexachloroethane	mg/Kg	140	0.018	U	0.019	U	0.86	U	1.9	U	0.018	U	0.019	U	0.041	U	0.024	U	0.019	U	
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.037	J	0.015	U	150		47		0.29	J	0.015	U	4.9		0.053	J	0.015	U	
Isophorone	mg/Kg	2000	0.023	U	0.024	U	1.1	U	2.3	U	0.022	U	0.024	U	0.051	U	0.03	U	0.023	U	
Naphthalene	mg/Kg	17	0.02	U	0.021	U	1600		360		13		0.021	U	1.4		0.057	J	0.02	U	
Nitrobenzene	mg/Kg	340	0.01	U	0.011	U	0.48	U	1	U	0.0099	U	0.011	U	0.023	U	0.013	U	0.01	U	
N-Nitrosodiphenylamine	mg/Kg	390	0.022	U	0.023	U	1	U	2.2	U	0.022	U	0.023	U	0.05	U	0.029	U	0.023	U	
N-Nitrosodipropylamine	mg/Kg	0.3	0.01	U	0.011	U	0.47	U	1	U	0.0098	U	0.01	U	0.022	U	0.013	U	0.01	U	
Pentachlorophenol	mg/Kg	10	0.03	U	0.032	U	1.4	U	3.1	U	0.03	U	0.032	U	0.068	U	0.04	U	0.031	U	
Phenanthrene	mg/Kg	300000	0.23	J	0.021	U	1900		460		2.8		0.021	U	3.7		0.26	J	0.02	U	
Phenol	mg/Kg	210000	0.025	U	0.026	U	32		13	J	1.2		0.026	U	0.055	U	0.032	U	0.025	U	
Pyrene	mg/Kg	18000	0.18	J	0.026	U	760		220		1.1		0.026	U	8.4		0.22	J	0.026	U	
Polychlorinated Dioxins/Furans																					
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.0062	U	--		0.7		0.13		0.048	J	--		0.015	J	0.00053	QJ	0.00025	QJ	
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.00019	QBJ	--		0.37		0.72	B	17	B	--		0.33	B	0.0049	BJ	0.0022	BJ	
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.0062	U	--		0.036	J	0.022	J	0.42		--		0.018	J	0.00055	J	0.0063	U	
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.0062	U	--		0.019	J	0.004	J	0.0038	QJ	--		0.0048	J	0.00016	QJ	0.0063	U	
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.0062	U	--		0.094	J	0.15		4.3	Q	--		0.15	Q	0.0022	J	0.00072	QJ	
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0062	U	--		0.032	QJ	0.0066	J	0.017	J	--		0.0058	J	0.00023	J	0.0063	U	
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.0062	U	--		0.028	BJ	0.038	QJ	0.84	Q	--		0.022	J	0.00043	QJ	0.00015	QJ	
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0062	U	--		0.034	BJ	0.0085	J	0.0051	J	--		0.0081	QJ	0.00031	QJ	0.0063	U	
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.0062	U	--		0.019	QBJ	0.1	U	0.0017	J	--		0.0083	J	0.00035	QJ	0.0063	U	
1,2,3,7,8-PCDD	ug/Kg	--	0.0062	U	--		0.018	QJ	0.0025	J	0.0042	QJ	--		0.0054	J	0.00039	QJ	0.0063	U	
1,2,3,7,8-PCDF	ug/Kg	--	0.0062	U	--		0.02	QJ	0.0064	QJ	0.05	QJ	--		0.0069	J	0.00015	QJ	0.0063	U	
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.0062	U	--		0.023	J	0.016	J	0.17		--		0.0095	J	0.00027	QJ	0.000091	QJ	
2,3,4,7,8-PCDF	ug/Kg	--	0.0062	U	--		0.024	J	0.019	J	0.32		--		0.016	J	0.00029	QJ	0.0063	U	
2,3,7,8-TCDD	ug/Kg	--	0.0012	U	--		0.073	U	0.0021	U	0.0016	J	--		0.014	U	0.0016	U	0.0013	U	
2,3,7,8-TCDF	ug/Kg	--	0.0012	U	--		0.017	QJ	0.0096	QJ	0.0054	QJ	--		0.013	QJ	0.0002	QJ	0.0013	U	
OCDD	ug/Kg	--	0.00081	QBJ	--		6.2	B	0.74	B	0.2	B	--		0.076	BJ	0.0036	BJ	0.0014	BJ	
OCDF	ug/Kg	--	0.00086	QBJ	--		0.53	BJ	1.2	B	45	B	--		0.67	B	0.013	BJ	0.0055	BJ	
Total HpCDD	ug/Kg	--	0.0062	U	--		1.3	B	0.44		0.098	J	--		0.024	J	0.00075	QJ	0.00049	JQ	
Total HpCDF	ug/Kg	--	0.00019	QBJ	--		0.73		0.87	B	18	B	--		0.38	B	0.0058	JB	0.0024	QJB	
Total HxCDD	ug/Kg	--	0.0062	U	--		0.19	JQB	0.086	JQ	0.084	QJ	--		0.028	QJ	0.0007	QJ	0.00025	J	
Total HxCDF	ug/Kg	--	0.0062	U	--		0.48	JQB	0.53	Q	9.7	Q	--		0.28	Q	0.0047	QJ	0.0014	JQ	
Total PeCDD	ug/Kg	--	0.0062	U	--		0.027	QJ	0.021	QJ	0.044	QJ	--		0.02	QJ	0.00039	QJ	0.0063	U	
Total PeCDF	ug/Kg	--	0.0062	U	--		0.22	QJB	0.25	JQ	3.7	Q	--		0.12	QJ	0.0018	QJ	0.0063	U	
Total TCDD	ug/Kg	--	0.0012	U	--		0.015	QJ	0.0093	JQ	0.035	Q	--		0.016	JQ	0.00043	QJ	0.0013	U	
Total TCDF	ug/Kg	--	0.0062	U	--		0.063	QJ	150	Q	1.7	Q	--		0.1	Q	0.00057	QJ	0.0013	U	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																					
1,2,3,4,6,7,8-HpCDD	0.01	--	--		--		7.00E-03		1.30E-03		4.80E-04		--		1.50E-04		--		--		
1,2,3,4,6,7,8-HpCDF	0.01	--	--		--		3.70E-03		7.20E-03		1.70E-01		--		3.30E-03		4.90E-05		2.20E-05		
1,2,3,4,7,8,9-HpCDF	0.01	--	--		--		3.60E-04		2.20E-04		4.20E-03		--		1.80E-04		5.50E-06		--		
1,2,3,4,7,8-HxCDD	0.10	--	--		--		1.90E-03		4.00E-04		--		--		4.80E-04		--		--		
1,2,3,4,7,8-HxCDF	0.10	--	--		--		9.40E-03		1.50E-02		--		--		--		2.20E-04		--		
1,2,3,6,7,8-HxCDD	0.10	--	--		--		--		6.60E-04		1.70E-03		--		5.80E-04		2.30E-05		--		

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-19 07/29/08 Sand Duplicate	BW-19 07/29/08 Clay Primary	BW-20 07/24/08 Fill Primary	BW-20 07/25/08 Mat Primary	BW-20 07/25/08 Sand Primary	BW-20 07/25/08 Clay Primary	BW-21 07/29/08 Fill Primary	BW-21 07/29/08 Mat Primary	BW-21 07/29/08 Sand Primary
Sample Depth			12.0-16.25 ft	22.0-24.0 ft	0.0-4.0 ft	6.0-10.0 ft	10.0-15.25 ft	24.0-26.0 ft	0.0-6.0 ft	8.0-10.5 ft	10.5-16.0 ft
VOC Sample Depth			16.0-16.25 ft	23.0-24.0 ft	2.0-3.0 ft	8.0-9.0 ft	15.0-15.25 ft	25.0-26.0 ft	5.0-6.0 ft	10.0-10.5 ft	15.0-16.0 ft
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continu											
1,2,3,6,7,8-HxCDF	0.10	--	--		--		2.80E-03		--		--
1,2,3,7,8,9-HxCDD	0.10	--	--		--		3.40E-03		8.50E-04		5.10E-04
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		1.70E-04
1,2,3,7,8-PCDD	1.00	--	--		--		--		2.50E-03		--
1,2,3,7,8-PCDF	0.05	--	--		--		--		--		--
2,3,4,6,7,8-HxCDF	0.10	--	--		--		2.30E-03		1.60E-03		1.70E-02
2,3,4,7,8-PCDF	0.50	--	--		--		1.20E-02		9.50E-03		1.60E-01
2,3,7,8-TCDD	1.00	--	--		--		--		1.60E-03		--
2,3,7,8-TCDF	0.10	--	--		--		--		--		--
OCDD	0.0001	--	--		--		6.20E-04		7.40E-05		2.00E-05
OCDF	0.0001	--	--		--		5.30E-05		1.20E-04		4.50E-03
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	--		--		4.35E-02		3.94E-02		3.60E-01
Polychlorinated Biphenyls (Aroclors)											
Aroclor 1016	mg/Kg	1	0.0031	U	--		0.0036	U	0.01	U	0.003
Aroclor 1221	mg/Kg	1	0.004	U	--		0.0046	U	0.013	U	0.0038
Aroclor 1232	mg/Kg	1	0.0036	U	--		0.0041	U	0.012	U	0.0034
Aroclor 1242	mg/Kg	1	0.0034	U	--		0.0039	U	0.011	U	0.0033
Aroclor 1248	mg/Kg	1	0.002	U	--		0.0023	U	0.0066	U	0.0019
Aroclor 1254	mg/Kg	1	0.003	U	--		0.0034	U	0.0099	U	0.0028
Aroclor 1260	mg/Kg	1	0.003	U	--		0.0034	U	0.0099	U	0.0028
Aroclor 1262	mg/Kg	1	0.0046	U	--		0.0053	U	0.015	U	0.0044
Aroclor 1268	mg/Kg	1	0.0027	U	--		0.0031	U	0.0089	U	0.0026
Metals											
Aluminum	mg/Kg	--	3080	J	11100	J	1740		3710		3140
Antimony	mg/Kg	450	0.11	U	0.19	BJ	0.53	BJ	2.3	B	0.11
Arsenic	mg/Kg	19	2.4		5.9		17		24		1.4
Barium	mg/Kg	59000	17.3	B	74.3		42.9		40.3	B	12.2
Beryllium	mg/Kg	140	0.29	B	0.87		0.2	B	0.13	U	0.32
Cadmium	mg/Kg	78	0.059	U	0.061	U	1.5		1.3	B	0.12
Calcium	mg/Kg	--	513	B	5830		1740		4090		584
Chromium ⁽³⁾	mg/Kg	120000	8.7		19.4		2650		1040		10.4
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	0.4	U	0.4	U	6.4		0.4	U	0.4
Cobalt	mg/Kg	590	3.2	B	12		4.9	B	8.6	B	3.3
Copper	mg/Kg	45000	5.7		22.3		93.3		69.1		5.1
Iron	mg/Kg	--	10700		28000		44200		44100	J	9710
Lead	mg/Kg	800	3.7	J	13.3	J	102		209		2.8
Magnesium	mg/Kg	--	1230		7210		606	B	2480		1180
Manganese	mg/Kg	5900	56.6		599		364		267	J	74.9
Mercury	mg/Kg	65	0.0089	U	0.013	B	1.3		15.1		0.0085
Nickel	mg/Kg	23000	6.6	J	24.6	J	24.2		39		7.5
Potassium	mg/Kg	--	315	B	1450		136	B	334	B	315
Selenium	mg/Kg	5700	0.36	U	0.37	U	2.7		1.6	B	0.35
Silver	mg/Kg	5700	0.046	U	0.18	B	0.36	B	0.62	B	0.045
Sodium	mg/Kg	--	263	B	523	B	2300		2370		505
Thallium	mg/Kg	79	0.4	U	0.42	U	2		1.3	U	0.39
Vanadium	mg/Kg	1100	12.2		24.4		42		128		12.6
Zinc	mg/Kg	110000	16.2	J	63.5	J	170		283		20.6

TABLE 4-4
ANALYTICAL RESULTS
BARRIER WALL ALIGNMENT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	BW-19 07/29/08 Sand Duplicate		BW-19 07/29/08 Clay Primary		BW-20 07/24/08 Fill Primary		BW-20 07/25/08 Mat Primary		BW-20 07/25/08 Sand Primary		BW-20 07/25/08 Clay Primary		BW-21 07/29/08 Fill Primary		BW-21 07/29/08 Mat Primary		BW-21 07/29/08 Sand Primary		
Sample Depth			12.0-16.25 ft		22.0-24.0 ft		0.0-4.0 ft		6.0-10.0 ft		10.0-15.25 ft		24.0-26.0 ft		0.0-6.0 ft		8.0-10.5 ft		10.5-16.0 ft		
VOC Sample Depth			16.0-16.25 ft		23.0-24.0 ft		2.0-3.0 ft		8.0-9.0 ft		15.0-15.25 ft		25.0-26.0 ft		5.0-6.0 ft		10.0-10.5 ft		15.0-16.0 ft		
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																					
1,1-Dichloroethene	mg/L	0.7	--		--		0.035	U	0.035	U	0.035	U	--		0.0087	U	0.0087	U	0.0087	U	
1,2-Dichloroethane	mg/L	0.5	--		--		0.026	U	0.026	U	0.026	U	--		0.0064	U	0.0064	U	0.0064	U	
1,4-Dichlorobenzene	mg/L	7.5	--		--		0.062		0.0046	U	25		--		0.0046	U	0.0046	U	0.0046	U	
2,4,5-Trichlorophenol	mg/L	400	--		--		0.0041	U	0.0041	U	0.0041	U	--		0.0041	U	0.0041	U	0.0041	U	
2,4,6-Trichlorophenol	mg/L	2	--		--		0.0026	U	0.0026	U	0.0026	U	--		0.0026	U	0.0026	U	0.0026	U	
2,4-Dinitrotoluene	mg/L	0.13	--		--		0.0028	U	0.0028	U	0.0028	U	--		0.0028	U	0.0028	U	0.0028	U	
2-Butanone	mg/L	200	--		--		0.029	U	0.12	J	0.029	U	--		0.0073	U	0.0073	U	0.0073	U	
Benzene	mg/L	0.5	--		--		0.36		0.033	U	0.046	J	--		0.0081	U	0.0081	U	0.0081	U	
Carbon Tetrachloride	mg/L	0.5	--		--		0.037	U	0.037	U	0.037	U	--		0.0091	U	0.0091	U	0.0091	U	
Chlorobenzene	mg/L	100	--		--		0.028	U	0.028	U	0.83		--		0.0071	U	0.0071	U	0.0071	U	
Chloroform	mg/L	6	--		--		0.031	U	0.031	U	0.031	U	--		0.0078	U	0.0078	U	0.0078	U	
Cresols	mg/L	200	--		--		1.8		0.0089	U	0.45		--		0.0089	U	0.0089	U	0.0089	U	
Hexachlorobenzene	mg/L	0.13	--		--		0.0049	U	0.0049	U	0.0049	U	--		0.0049	U	0.0049	U	0.0049	U	
Hexachlorobutadiene	mg/L	0.5	--		--		0.0033	U	0.0033	U	0.0033	U	--		0.0033	U	0.0033	U	0.0033	U	
Hexachloroethane	mg/L	3	--		--		0.0036	U	0.0036	U	0.0036	U	--		0.0036	U	0.0036	U	0.0036	U	
Nitrobenzene	mg/L	2	--		--		0.0056	U	0.0056	U	0.0056	U	--		0.0056	U	0.0056	U	0.0056	U	
Pentachlorophenol	mg/L	100	--		--		0.005	U	0.005	U	0.005	U	--		0.005	U	0.005	U	0.005	U	
Pyridine	mg/L	5	--		--		0.011	U	0.011	U	0.011	U	--		0.011	U	0.011	U	0.011	U	
Tetrachloroethene	mg/L	0.7	--		--		0.023	U	0.023	U	0.023	U	--		0.0057	U	0.0057	U	0.0057	U	
Trichloroethene	mg/L	0.5	--		--		0.035	U	0.035	U	0.035	U	--		0.0088	U	0.0088	U	0.0088	U	
Vinyl chloride	mg/L	0.2	--		--		0.038	U	0.038	U	0.038	U	--		0.0094	U	0.0094	U	0.0094	U	
Arsenic	mg/L	5	--		--		0.16	B	0.17	B	0.13	B	--		0.18	B	0.16	B	0.2	B	
Barium	mg/L	100	--		--		0.16	BJ	0.038	BJ	0.14	BJ	--		0.21	BJ	0.055	BJ	0.2	BJ	
Cadmium	mg/L	1	--		--		0.0012	U	0.0012	U	0.0012	U	--		0.0012	U	0.0012	U	0.0012	U	
Chromium	mg/L	5	--		--		0.58		0.0062	B	0.017	B	--		0.52		0.0052	B	0.0055	B	
Lead	mg/L	5	--		--		0.013	U	0.013	U	0.013	U	--		0.032	B	0.013	U	0.013	U	
Mercury	mg/L	0.2	--		--		0.000055	U	0.000055	U	0.000055	U	--		0.000055	U	0.000055	U	0.000055	U	
Selenium	mg/L	1	--		--		0.015	U	0.015	U	0.015	U	--		0.015	U	0.015	U	0.015	U	
Silver	mg/L	5	--		--		0.0025	U	0.0025	U	0.0025	U	--		0.0025	U	0.0025	U	0.0025	U	
RCRA Characteristics and Indicators																					
Corrosivity (pH)	SU	2<pH<12.5	--		--		8.39		5.49		8.16		--		7.77		7.42		8.2		
Cyanide	mg/Kg	23000	0.21	BJ	--		13.4		10.6		0.13	B	--		0.95	J	0.27	BJ	0.23	BJ	
Total Sulfide (Reactivity)	mg/Kg	--	--		--		210		51.1	U	14.7	U	--		77.6		19.9	U	15.5	U	
Ignitability	None	--	--		--		No		No		No		--		No		No		No		
Oxidation Reduction Potential	mV	--	464		485		592		455		442		444		456		470		469		
Percent Solids	%	--	80.1		76.9		68.4		24		83.2		77.3		72.2		61.6		79.1		

TABLE 4-4

ANALYTICAL RESULTS

BARRIER WALL ALIGNMENT SOIL SAMPLES

STANDARD CHLORINE SITE

KEARNY, NEW JERSEY

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
3. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance/rs/chrome_criteria.pdf). Criterion for residential exposure to trivalent chromium was used for total chromium.
4. Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Organic results. Analyte detected in associated method blank
- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- E - Inorganic results. Serial dilution was outside quality control limits for this analyte.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
- Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration. Analyte may be present below the quantitation limit indicated.
- S - Organic results. Ion suppression.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-5

**ANALYTICAL RESULTS
GEOTECHNICAL BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	GT-1 05/14/08 25-26 ft Primary		GT-2 05/12/08 19-20 ft Primary		GT-3 05/08/08 22-24 ft Primary		GT-4 05/13/08 29-30 ft Primary		GT-5 05/13/08 26-27 ft Primary	
Volatile Organics												
1,1,1-Trichloroethane	mg/Kg	4200	0.007	U	0.014	U	0.014	U	0.013	U	0.013	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.01	U	0.015	U	0.015	U	0.015	U	0.015	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.015	U	0.017	U	0.016	U	0.016	U	0.016	U
1,1,2-Trichloroethane	mg/Kg	6	0.012	U	0.015	U	0.014	U	0.014	U	0.014	U
1,1-Dichloroethane	mg/Kg	24	0.0083	U	0.013	U	0.013	U	0.013	U	0.013	U
1,1-Dichloroethene	mg/Kg	150	0.012	U	0.016	U	0.016	U	0.015	U	0.015	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.013	U	0.014	U	0.03	J	0.013	U	0.013	U
1,2-Dibromoethane	mg/Kg	0.04	0.012	U	0.014	U	0.014	U	0.014	U	0.014	U
1,2-Dichlorobenzene	mg/Kg	59000	0.012	U	0.015	U	0.015	U	0.014	U	0.014	U
1,2-Dichloroethane	mg/Kg	3	0.0089	U	0.015	U	0.015	U	0.014	U	0.014	U
1,2-Dichloropropane	mg/Kg	5	0.0078	U	0.015	U	0.015	U	0.014	U	0.014	U
1,3-Dichlorobenzene	mg/Kg	59000	0.0095	U	0.014	U	0.014	U	0.014	U	0.014	U
1,4-Dichlorobenzene	mg/Kg	13	0.0092	U	0.015	U	0.015	U	0.014	U	0.014	U
2-Butanone	mg/Kg	44000	0.013	U	0.037	J	0.19		0.013	U	0.013	U
2-Hexanone	mg/Kg	--	0.01	U	0.011	U	0.011	U	0.01	U	0.01	U
4-Methyl-2-pentanone	mg/Kg	--	0.0094	U	0.012	U	0.012	U	0.011	U	0.011	U
Acetone	mg/Kg	--	0.072	U	0.45		1.8		0.08	J	0.075	J
Benzene	mg/Kg	5	0.0097	U	0.014	U	0.014	U	0.014	U	0.014	U
Bromodichloromethane	mg/Kg	3	0.0081	U	0.013	U	0.013	U	0.013	U	0.013	U
Bromoform	mg/Kg	280	0.0064	U	0.014	U	0.014	U	0.013	U	0.013	U
Bromomethane	mg/Kg	59	0.011	U	0.017	U	0.017	U	0.017	U	0.016	U
Carbon disulfide	mg/Kg	110000	0.0074	U	0.017	U	0.016	U	0.016	U	0.016	U
Carbon tetrachloride	mg/Kg	2	0.0064	U	0.012	U	0.012	U	0.012	U	0.012	U
Chlorobenzene	mg/Kg	7400	0.011	U	0.015	U	0.015	U	0.014	U	0.014	U
Chloroethane	mg/Kg	1100	0.022	U	0.02	U	0.019	U	0.019	U	0.019	U
Chloroform	mg/Kg	2	0.0084	U	0.014	U	0.014	U	0.014	U	0.014	U
Chloromethane	mg/Kg	12	0.012	U	0.015	U	0.015	U	0.014	U	0.014	U
cis-1,2-Dichloroethene	mg/Kg	560	0.01	U	0.015	U	0.014	U	0.014	U	0.014	U
cis-1,3-Dichloropropene	mg/Kg	7	0.0098	U	0.012	U	0.012	U	0.012	U	0.012	U
Cyclohexane	mg/Kg	--	0.0054	U	0.014	U	0.013	U	0.013	U	0.013	U
Dibromochloromethane	mg/Kg	8	0.01	U	0.013	U	0.012	U	0.012	U	0.012	U
Dibromochloropropane	mg/Kg	--	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Dichlorodifluoromethane	mg/Kg	230000	0.0096	U	0.017	U	0.017	U	0.017	U	0.017	U
Ethylbenzene	mg/Kg	110000	0.0093	U	0.016	U	0.016	U	0.015	U	0.015	U
Isopropylbenzene	mg/Kg	--	0.0098	U	0.015	U	0.014	U	0.014	U	0.014	U
Methyl Acetate	mg/Kg	--	0.013	U	0.014	U	0.014	U	0.014	U	0.014	U
Methylcyclohexane	mg/Kg	--	0.01	U	0.015	U	0.015	U	0.015	U	0.015	U
Methylene chloride	mg/Kg	97	0.0097	U	0.026	J	0.01	U	0.014	JB	0.01	JB
Methyltert-butylether	mg/Kg	320	0.011	U	0.013	U	0.012	U	0.012	U	0.012	U
Styrene	mg/Kg	260	0.0077	U	0.015	U	0.015	U	0.015	U	0.015	U
Tetrachloroethene	mg/Kg	5	0.0098	U	0.018	U	0.017	U	0.017	U	0.017	U
Toluene	mg/Kg	91000	0.011	U	0.011	U	0.011	U	0.01	U	0.01	U
trans-1,2-Dichloroethene	mg/Kg	720	0.0086	U	0.016	U	0.016	U	0.015	U	0.015	U
Trans-1,3-Dichloropropene	mg/Kg	7	0.0086	U	0.012	U	0.012	U	0.011	U	0.011	U
Trichloroethene	mg/Kg	20	0.0095	U	0.015	U	0.015	U	0.015	U	0.015	U
Trichlorofluoromethane	mg/Kg	340000	0.013	U	0.022	U	0.022	U	0.021	U	0.021	U
Vinyl chloride	mg/Kg	2	0.0068	U	0.015	U	0.015	U	0.015	U	0.015	U
Xylene (total)	mg/Kg	170000	0.032	U	0.048	U	0.047	U	0.046	U	0.046	U

TABLE 4-5

**ANALYTICAL RESULTS
GEOTECHNICAL BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	GT-1 05/14/08 25-26 ft Primary		GT-2 05/12/08 19-20 ft Primary		GT-3 05/08/08 22-24 ft Primary		GT-4 05/13/08 29-30 ft Primary		GT-5 05/13/08 26-27 ft Primary	
Semivolatile Organics												
1,1'-Biphenyl	mg/Kg	34000	0.032	U	0.032	U	0.032	U	0.032	J	0.032	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.032	U	0.24	U	0.25	U	0.27	U	0.27	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.032	U	0.33	U	0.35	U	0.38	U	0.37	U
2,4,6-Trichlorophenol	mg/Kg	74	0.032	U	0.32	U	0.34	U	0.37	U	0.36	U
2,4-Dichlorophenol	mg/Kg	2100	0.032	U	0.12	U	0.13	U	0.14	U	0.13	U
2,4-Dimethylphenol	mg/Kg	14000	0.032	U	0.17	U	3	J	1.3	J	0.19	U
2,4-Dinitrophenol	mg/Kg	1400	0.032	U	4.7	U	5	U	5.4	U	5.3	U
2,4-Dinitrotoluene	mg/Kg	3	0.032	U	0.21	U	0.22	U	0.23	U	0.23	U
2,6-Dinitrotoluene	mg/Kg	3	0.032	U	0.26	U	0.27	U	0.29	U	0.29	U
2-Chloronaphthalene	mg/Kg	--	0.032	U	0.23	U	0.24	U	0.26	U	0.26	U
2-Chlorophenol	mg/Kg	2200	0.032	U	0.2	U	0.21	U	0.23	U	0.22	U
2-Methylnaphthalene	mg/Kg	2400	0.032	U	0.22	U	1.1	J	17		0.25	U
2-Methylphenol	mg/Kg	3400	0.032	U	0.52	J	3	J	0.84	J	0.28	U
2-Nitroaniline	mg/Kg	23000	0.032	U	0.24	U	0.25	U	0.27	U	0.27	U
2-Nitrophenol	mg/Kg	--	0.032	U	0.32	U	0.33	U	0.36	U	0.35	U
3,3-Dichlorobenzidine	mg/Kg	4	0.032	U	0.9	U	0.95	U	1	U	1	U
3-Nitroaniline	mg/Kg	--	0.032	U	0.34	U	0.36	U	0.39	U	0.38	U
4,6-Dinitro-o-cresol	mg/Kg	68	0.032	U	2.8	U	3	U	3.2	U	3.1	U
4-Bromophenylphenyl ether	mg/Kg	--	0.032	U	0.18	U	0.19	U	0.2	U	0.2	U
4-Chloro-3-methylphenol	mg/Kg	--	0.032	U	0.24	U	0.26	U	0.28	U	0.27	U
4-Chloroaniline	mg/Kg	--	0.032	U	0.2	U	0.21	U	0.22	U	0.22	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.032	U	0.35	U	0.36	U	0.39	U	0.38	U
4-Methylphenol	mg/Kg	340	0.032	U	3.8	J	14		3.4	J	0.28	U
4-Nitroaniline	mg/Kg	--	0.032	U	0.17	U	0.18	U	0.19	U	0.19	U
4-Nitrophenol	mg/Kg	--	0.032	U	0.31	U	0.33	U	0.35	U	0.35	U
Acenaphthene	mg/Kg	37000	0.032	U	0.21	U	0.22	U	2.2	J	0.23	U
Acenaphthylene	mg/Kg	300000	0.032	U	0.23	U	0.24	U	0.39	J	0.26	U
Acetophenone	mg/Kg	5	0.032	U	0.24	U	0.26	U	0.28	U	0.27	U
Anthracene	mg/Kg	30000	0.032	U	0.23	U	0.24	U	1.6	J	0.25	U
Atrazine	mg/Kg	2400	0.032	U	0.28	U	0.29	U	0.31	U	0.31	U
Benzaldehyde	mg/Kg	68000	0.032	U	0.43	U	0.45	U	0.48	U	0.47	U
Benzo(a)anthracene	mg/Kg	2	0.032	U	0.16	U	0.17	U	0.6	J	0.48	J
Benzo(a)pyrene	mg/Kg	0.2	0.032	U	0.12	U	0.13	U	0.5	J	0.41	J
Benzo(b)fluoranthene	mg/Kg	2	0.032	U	0.15	U	0.16	U	0.72	J	0.58	J
Benzo(ghi)perylene	mg/Kg	30000	0.032	U	0.14	U	0.14	U	0.44	J	0.31	J
Benzo(k)fluoranthene	mg/Kg	23	0.032	U	0.13	U	0.13	U	0.15	U	0.14	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.032	U	0.19	U	0.2	U	0.21	U	0.21	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.032	U	0.09	U	0.095	U	0.1	U	0.1	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.032	U	0.31	U	0.32	U	0.6	J	0.57	J
Butyl benzyl phthalate	mg/Kg	14000	0.032	U	0.32	U	0.34	U	0.36	U	0.36	U
Caprolactam	mg/Kg	340000	0.032	U	0.76	U	0.8	U	0.86	U	0.84	U
Carbazole	mg/Kg	96	0.032	U	0.16	U	0.17	U	0.37	J	0.18	U
Chrysene	mg/Kg	230	0.032	U	0.16	U	0.17	U	0.69	J	0.41	J
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.032	U	0.26	U	0.27	U	0.29	U	0.28	U
Dibenzofuran	mg/Kg	--	0.032	U	0.22	U	0.27	J	3.6	J	0.25	U
Diethyl phthalate	mg/Kg	550000	0.032	U	0.36	U	0.38	U	0.41	U	0.4	U
Dimethyl phthalate	mg/Kg	--	0.032	U	0.23	U	0.24	U	0.26	U	0.25	U
Di-n-butyl phthalate	mg/Kg	68000	0.032	U	0.67	U	0.7	U	0.75	U	0.74	U
Di-n-octyl phthalate	mg/Kg	27000	0.032	U	0.28	U	0.29	U	0.32	U	0.31	U
Fluoranthene	mg/Kg	24000	0.032	U	0.26	U	0.27	U	1.3	J	0.54	J

TABLE 4-5

**ANALYTICAL RESULTS
GEOTECHNICAL BORINGS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	GT-1 05/14/08 25-26 ft Primary		GT-2 05/12/08 19-20 ft Primary		GT-3 05/08/08 22-24 ft Primary		GT-4 05/13/08 29-30 ft Primary		GT-5 05/13/08 26-27 ft Primary	
Semivolatile Organics (Continued)												
Fluorene	mg/Kg	24000	0.21	U	0.19	U	0.2	U	2.5	J	0.22	U
Hexachlorobenzene	mg/Kg	1	0.26	U	0.24	U	0.25	U	3.6	J	0.27	U
Hexachlorobutadiene	mg/Kg	25	0.26	U	0.25	U	0.26	U	0.28	U	0.27	U
Hexachlorocyclopentadiene	mg/Kg	110	0.2	U	0.18	U	0.19	U	0.21	U	0.2	U
Hexachloroethane	mg/Kg	140	0.19	U	0.18	U	0.19	U	0.2	U	0.2	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.15	U	0.14	U	0.15	U	0.39	J	0.34	J
Isophorone	mg/Kg	2000	0.24	U	0.22	U	0.23	U	0.25	U	0.25	U
Naphthalene	mg/Kg	17	39		0.19	U	3.8	J	47		0.22	U
Nitrobenzene	mg/Kg	340	0.11	U	0.1	U	0.1	U	0.11	U	0.11	U
N-Nitrosodiphenylamine	mg/Kg	390	0.23	U	0.22	U	0.23	U	0.25	U	0.24	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.1	U	0.098	U	0.1	U	0.11	U	0.11	U
Pentachlorophenol	mg/Kg	10	0.32	U	0.3	U	0.31	U	0.34	U	0.33	U
Phenanthrene	mg/Kg	300000	0.2	U	0.19	U	0.2	U	3.7	J	0.25	J
Phenol	mg/Kg	210000	0.26	U	16		10		2.3	J	0.27	U
Pyrene	mg/Kg	18000	0.26	U	0.25	U	0.26	U	0.75	J	0.37	J
Metals												
Aluminum	mg/Kg	--	11100	J	9770		11000		13000		12600	
Antimony	mg/Kg	450	0.12	U	0.11	U	0.12	U	0.13	U	0.12	U
Arsenic	mg/Kg	19	5.7		2.3		3.3		8.1		8.1	
Barium	mg/Kg	59000	44.3		32.9		30.1		92.3		75.4	
Beryllium	mg/Kg	140	0.77		0.68		0.95		0.87		0.89	
Cadmium	mg/Kg	78	0.66		0.41	B	0.81		0.7		0.73	
Calcium	mg/Kg	--	6700		1930		2500		5050		5630	
Chromium ⁽²⁾	mg/Kg	120000	18.5	J	21.7	J	19.7	J	22.3	J	21.1	J
Chromium (Hexavalent) ⁽²⁾	mg/Kg	20	NA		0.4	U	0.4	U	0.4	U	0.4	U
Cobalt	mg/Kg	590	11.8		7.3		12.9		12.5		12.7	
Copper	mg/Kg	45000	23.5		10.1		16.2		28.1		25.4	
Iron	mg/Kg	--	24500		16200		35700		30100		31400	
Lead	mg/Kg	800	12.8		8.2		11		12.8		14	
Magnesium	mg/Kg	--	7740		3700		6150		8220		7670	
Manganese	mg/Kg	5900	635	J	293		948		565		609	
Mercury	mg/Kg	65	0.021	B	0.0089	B	0.016	B	0.031	B	0.024	B
Nickel	mg/Kg	23000	25	J	17.9	J	30.2	J	27.2	J	27.3	J
Potassium	mg/Kg	--	1450		982		1170		1890		1830	
Selenium	mg/Kg	5700	0.38	B	0.39	B	0.55	B	0.55	B	0.55	B
Silver	mg/Kg	5700	0.2	BJ	0.1	B	0.23	B	0.12	B	0.16	B
Sodium	mg/Kg	--	796		796		2170		558	B	692	
Thallium	mg/Kg	79	0.43	B	0.78	B	0.59	B	0.44	U	0.65	B
Vanadium	mg/Kg	1100	21.9		19		20.1		27.8		25.7	
Zinc	mg/Kg	110000	62.7	J	53		77.9		65.7		67.5	
Indicator Parameters												
Percent Solids	%	--	76.8		82.5		78.9		73		74.5	

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf)

2. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).

Criterion for residential exposure to trivalent chromium was used for total chromium.

3. Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

B - Organic results. Analyte detected in associated method blank

B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.

J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.

J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.

U - Not detected at the detection limit indicated.

-- - Not analyzed or criteria unavailable.

TABLE 4-6

**ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	TSWC-03 05/07/08 Primary	TSWC-03-2 10/21/08 Resample	TSWC-04 05/07/08 Primary	TSWC-05 05/07/08 Primary
Sample Depth			1.0-3.0 ft	0.0-3.0 ft	1.0-3.0 ft	1.0-3.0 ft
VOC Sample Depth			2.0-3.0 ft	--	2.0-3.0 ft	2.0-3.0 ft
Volatile Organics						
1,1,1-Trichloroethane	mg/Kg	4200	0.066	U	--	0.0012 U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.073	U	--	0.0014 U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.079	U	--	0.0015 U
1,1,2-Trichloroethane	mg/Kg	6	0.069	U	--	0.0013 U
1,1-Dichloroethane	mg/Kg	24	0.063	U	--	0.0012 U
1,1-Dichloroethene	mg/Kg	150	0.076	U	--	0.0014 U
1,2,4-Trichlorobenzene	mg/Kg	820	0.067	U	--	0.0012 U
1,2-Dibromoethane	mg/Kg	0.04	0.067	U	--	0.0012 U
1,2-Dichlorobenzene	mg/Kg	59000	4.2	--	0.0013 U	0.0013 U
1,2-Dichloroethane	mg/Kg	3	0.07	U	--	0.0013 U
1,2-Dichloropropane	mg/Kg	5	0.072	U	--	0.0013 U
1,3-Dichlorobenzene	mg/Kg	59000	1.1	--	0.0013 U	0.0013 U
1,4-Dichlorobenzene	mg/Kg	13	2.5	--	0.0013 U	0.0013 U
2-Butanone	mg/Kg	44000	0.063	U	--	0.0012 U
2-Hexanone	mg/Kg	--	0.051	U	--	0.00094 U
4-Methyl-2-pentanone	mg/Kg	--	0.056	U	--	0.001 U
Acetone	mg/Kg	--	0.077	U	--	0.006 U
Benzene	mg/Kg	5	0.067	U	--	0.0012 U
Bromodichloromethane	mg/Kg	3	0.063	U	--	0.0012 U
Bromoform	mg/Kg	280	0.066	U	--	0.0012 U
Bromomethane	mg/Kg	59	0.082	U	--	0.0015 U
Carbon disulfide	mg/Kg	110000	0.079	U	--	0.0015 U
Carbon tetrachloride	mg/Kg	2	0.058	U	--	0.0011 U
Chlorobenzene	mg/Kg	7400	0.43	--	0.0013 U	0.0013 U
Chloroethane	mg/Kg	1100	0.093	U	--	0.0017 U
Chloroform	mg/Kg	2	0.068	U	--	0.0013 U
Chloromethane	mg/Kg	12	0.072	U	--	0.0013 U
cis-1,2-Dichloroethene	mg/Kg	560	0.07	U	--	0.0013 U
cis-1,3-Dichloropropene	mg/Kg	7	0.058	U	--	0.0011 U
Cyclohexane	mg/Kg	--	0.064	U	--	0.0012 U
Dibromochloromethane	mg/Kg	8	0.06	U	--	0.0011 U
Dibromochloropropane	mg/Kg	--	0.054	U	--	0.001 U
Dichlorodifluoromethane	mg/Kg	230000	0.082	U	--	0.0015 U
Ethylbenzene	mg/Kg	110000	0.076	U	--	0.0014 U
Isopropylbenzene	mg/Kg	--	0.069	U	--	0.0013 U
Methyl acetate	mg/Kg	--	0.068	U	--	0.0013 U
Methylcyclohexane	mg/Kg	--	0.072	U	--	0.0013 U
Methylene chloride	mg/Kg	97	0.049	U	--	0.00091 U
Methyltert-butylether	mg/Kg	320	0.06	U	--	0.0011 U
Styrene	mg/Kg	260	0.072	U	--	0.0013 U
Tetrachloroethene	mg/Kg	5	0.084	U	--	0.0015 U
Toluene	mg/Kg	91000	0.051	U	--	0.00094 U
trans-1,2-Dichloroethene	mg/Kg	720	0.075	U	--	0.0014 U
trans-1,3-Dichloropropene	mg/Kg	7	0.056	U	--	0.001 U
Trichloroethene	mg/Kg	20	0.072	U	--	0.0013 U
Trichlorofluoromethane	mg/Kg	340000	0.1	U	--	0.0019 U
Vinyl chloride	mg/Kg	2	0.072	U	--	0.0013 U
Xylene (total)	mg/Kg	170000	0.3	J	--	0.0042 U

TABLE 4-6

ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	TSWC-03 05/07/08 Primary	TSWC-03-2 10/21/08 Resample	TSWC-04 05/07/08 Primary	TSWC-05 05/07/08 Primary				
Sample Depth			1.0-3.0 ft	0.0-3.0 ft	1.0-3.0 ft	1.0-3.0 ft				
VOC Sample Depth			2.0-3.0 ft	--	2.0-3.0 ft	2.0-3.0 ft				
Semivolatile Organics										
1,1'-Biphenyl	mg/Kg	34000	1		--		0.067	J	0.067	J
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.029	U	--		0.023	U	0.024	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.039	U	--		0.032	U	0.033	U
2,4,6-Trichlorophenol	mg/Kg	74	0.039	U	--		0.031	U	0.033	U
2,4-Dichlorophenol	mg/Kg	2100	0.014	U	--		0.012	U	0.012	U
2,4-Dimethylphenol	mg/Kg	14000	0.021	U	--		0.017	U	0.091	J
2,4-Dinitrophenol	mg/Kg	1400	0.56	U	--		0.46	U	0.48	U
2,4-Dinitrotoluene	mg/Kg	3	0.025	U	--		0.02	U	0.021	U
2,6-Dinitrotoluene	mg/Kg	3	0.031	U	--		0.025	U	0.026	U
2-Chloronaphthalene	mg/Kg	--	0.028	U	--		0.023	U	0.023	U
2-Chlorophenol	mg/Kg	2200	0.024	U	--		0.02	U	0.02	U
2-Methylnaphthalene	mg/Kg	2400	9.2		--		0.21	J	0.2	J
2-Methylphenol	mg/Kg	3400	0.04	J	--		0.024	U	0.025	U
2-Nitroaniline	mg/Kg	23000	0.029	U	--		0.023	U	0.024	U
2-Nitrophenol	mg/Kg	--	0.038	U	--		0.031	U	0.032	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.11	U	--		0.088	U	0.091	U
3-Nitroaniline	mg/Kg	--	0.041	U	--		0.033	U	0.035	U
4,6-Dinitro-o-cresol	mg/Kg	68	0.34	U	--		0.28	U	0.28	U
4-Bromophenylphenyl ether	mg/Kg	--	0.021	U	--		0.017	U	0.018	U
4-Chloroaniline	mg/Kg	--	0.041	U	--		0.034	U	0.035	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.024	U	--		0.019	U	0.02	U
4-Chloro-3-methylphenol	mg/Kg	--	0.029	U	--		0.024	U	0.025	U
4-Methylphenol	mg/Kg	340	0.07	J	--		0.024	U	0.16	J
4-Nitroaniline	mg/Kg	--	0.02	U	--		0.016	U	0.017	U
4-Nitrophenol	mg/Kg	--	0.037	U	--		0.03	U	0.031	U
Acenaphthene	mg/Kg	37000	1.8		--		0.28	J	0.45	
Acenaphthylene	mg/Kg	300000	0.11	J	--		0.032	J	0.1	J
Acetophenone	mg/Kg	5	0.029	U	--		0.024	U	0.025	U
Anthracene	mg/Kg	30000	0.25	J	--		0.56		0.42	
Atrazine	mg/Kg	2400	0.033	U	--		0.027	U	0.028	U
Benzaldehyde	mg/Kg	68000	0.051	U	--		0.041	U	0.043	U
Benzo(a)anthracene	mg/Kg	2	0.72		--		1.6		0.43	
Benzo(a)pyrene	mg/Kg	0.2	0.6		--		1.6		0.2	J
Benzo(b)fluoranthene	mg/Kg	2	1		--		2.9		0.45	
Benzo(ghi)perylene	mg/Kg	30000	0.52		--		1.3		0.17	J
Benzo(k)fluoranthene	mg/Kg	23	0.015	U	--		0.012	U	0.013	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.022	U	--		0.018	U	0.019	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.011	U	--		0.0088	U	0.0091	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.037	U	--		0.03	U	0.031	U
Butyl benzyl phthalate	mg/Kg	14000	0.038	U	--		0.031	U	0.032	U
Caprolactam	mg/Kg	340000	0.09	U	--		0.074	U	0.076	U
Carbazole	mg/Kg	96	0.15	J	--		0.18	J	0.033	J
Chrysene	mg/Kg	230	0.93		--		1.8		0.31	J
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.11	J	--		0.42		0.041	J
Dibenzofuran	mg/Kg	--	1.6		--		0.18	J	0.15	J
Diethyl phthalate	mg/Kg	550000	0.043	U	--		0.035	U	0.036	U
Dimethyl phthalate	mg/Kg	--	0.027	U	--		0.022	U	0.023	U
Di-n-butyl phthalate	mg/Kg	68000	0.079	U	--		0.065	U	0.067	U
Di-n-octyl phthalate	mg/Kg	27000	0.033	U	--		0.027	U	0.028	U
Fluoranthene	mg/Kg	24000	0.68		--		2.8		1.3	

TABLE 4-6

**ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	TSWC-03 05/07/08 Primary	TSWC-03-2 10/21/08 Resample	TSWC-04 05/07/08 Primary	TSWC-05 05/07/08 Primary
Sample Depth			1.0-3.0 ft	0.0-3.0 ft	1.0-3.0 ft	1.0-3.0 ft
VOC Sample Depth			2.0-3.0 ft	--	2.0-3.0 ft	2.0-3.0 ft
Semivolatile Organics (Continued)						
Fluorene	mg/Kg	24000	0.92	--	0.24	0.093
Hexachlorobenzene	mg/Kg	1	0.029	U	0.023	0.024
Hexachlorobutadiene	mg/Kg	25	0.029	U	0.024	0.025
Hexachlorocyclopentadiene	mg/Kg	110	0.022	U	0.018	0.019
Hexachloroethane	mg/Kg	140	0.021	U	0.017	0.018
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.4	J	1.1	0.14
Isophorone	mg/Kg	2000	0.027	U	0.022	0.022
Naphthalene	mg/Kg	17	14	--	0.34	0.57
Nitrobenzene	mg/Kg	340	0.012	U	0.0097	0.01
N-Nitrosodiphenylamine	mg/Kg	390	0.026	U	0.021	0.022
N-Nitrosodipropylamine	mg/Kg	0.3	0.012	U	0.0095	0.0099
Pentachlorophenol	mg/Kg	10	0.036	U	0.029	0.03
Phenanthrene	mg/Kg	300000	0.92	--	2	0.85
Phenol	mg/Kg	210000	0.029	U	0.024	0.024
Pyrene	mg/Kg	18000	1.1	--	2.6	0.99
Polychlorinated Dioxins/Furans						
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.0048	J	0.22	0.0026
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.052		4.7	0.013
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.0017	QJ	0.14	0.00054
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.0072	U	0.011	0.0059
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.017	Q	1.4	0.0055
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0072	U	0.035	0.00041
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.0023	J	0.22	0.0011
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0072	U	0.0082	0.0059
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.0072	U	0.0027	0.0059
1,2,3,7,8-PeCDD	ug/Kg	--	0.0072	U	0.013	0.0059
1,2,3,7,8-PeCDF	ug/Kg	--	0.00054	QJ	0.027	0.00053
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.00046	QJ	0.075	0.00052
2,3,4,7,8-PeCDF	ug/Kg	--	0.0016	QJ	0.14	0.00075
2,3,7,8-TCDD	ug/Kg	--	0.0014	U	0.0	0.0012
2,3,7,8-TCDF	ug/Kg	--	0.001	QJ	0.0084	0.00093
OCDD	ug/Kg	--	0.046	B	3.1	0.15
OCDF	ug/Kg	--	0.1		8.1	0.015
Total HpCDD	ug/Kg	--	0.0089	QJ	0.44	0.0054
Total HpCDF	ug/Kg	--	0.062	Q	5.7	0.017
Total HxCDD	ug/Kg	--	0.0019	J	0.24	0.0032
Total HxCDF	ug/Kg	--	0.041	Q	2.8	0.019
Total PeCDD	ug/Kg	--	0.0028	QJS	0.29	0.0032
Total PeCDF	ug/Kg	--	0.021	QJS	1.1	0.032
Total TCDD	ug/Kg	--	0.0019	QJ	0.15	0.0018
Total TCDF	ug/Kg	--	0.012	Q	0.43	0.038
Polychlorinated Dioxins/Furans (Dioxin Equivalents)						
1,2,3,4,6,7,8-HpCDD	0.01	--	0.000048		0.0022	0.0029
1,2,3,4,6,7,8-HpCDF	0.01	--	0.00052		0.047	0.00013
1,2,3,4,7,8,9-HpCDF	0.01	--	--		0.0014	0.032
1,2,3,4,7,8-HxCDD	0.10	--	--		0.0011	0.0022
1,2,3,4,7,8-HxCDF	0.10	--	--		0.14	0.00055
1,2,3,6,7,8-HxCDD	0.10	--	--		0.0035	0.000041
1,2,3,6,7,8-HxCDF	0.10	--	0.00023		0.022	0.00011
1,2,3,7,8,9-HxCDD	0.10	--	--		0.00082	0.0029

TABLE 4-6

ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	TSWC-03 05/07/08 Primary		TSWC-03-2 10/21/08 Resample		TSWC-04 05/07/08 Primary		TSWC-05 05/07/08 Primary	
Sample Depth			1.0-3.0 ft		0.0-3.0 ft		1.0-3.0 ft		1.0-3.0 ft	
VOC Sample Depth			2.0-3.0 ft		--		2.0-3.0 ft		2.0-3.0 ft	
Polychlorinated Dioxins/Furans (Dioxin Equivalents) (Continued)										
1,2,3,7,8,9-HxCDF	0.10	--	--		0.00027		--		--	
1,2,3,7,8-PCDD	1.00	--	--		0.013		--		--	
1,2,3,7,8-PCDF	0.05	--	--		0.00135		0.0000265		--	
2,3,4,6,7,8-HxCDF	0.10	--	--		0.0075		--		0.1	
2,3,4,7,8-PCDF	0.50	--	--		0.07		--		--	
2,3,7,8-TCDD	1.00	--	--		--		--		--	
2,3,7,8-TCDF	0.10	--	--		0.00084		--		--	
OCDD	0.0001	--	0.0000046		0.00031		0.000015		0.000097	
OCDF	0.0001	--	0.00001		0.00081		0.0000015		0.025	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	8.1E-04		3.1E-01		8.7E-04		1.3E+00	
Polychlorinated Biphenyls (Aroclors)										
Aroclor 1016	mg/Kg	1	0.0035	U	--		0.0029	U	0.003	U
Aroclor 1221	mg/Kg	1	0.0045	U	--		0.0037	U	0.0039	U
Aroclor 1232	mg/Kg	1	0.0041	U	--		0.0034	U	0.13	
Aroclor 1242	mg/Kg	1	0.0039	U	--		0.0032	U	0.0033	U
Aroclor 1248	mg/Kg	1	0.0022	U	--		0.0019	U	0.0019	U
Aroclor 1254	mg/Kg	1	0.0034	U	--		0.0028	U	0.0029	U
Aroclor 1260	mg/Kg	1	0.011	J	--		0.0049	J	0.03	PG
Aroclor 1262	mg/Kg	1	0.0052	U	--		0.0043	U	0.0044	U
Aroclor 1268	mg/Kg	1	0.0031	U	--		0.0025	U	0.0026	U
Metals										
Aluminum	mg/Kg	--	23500		--		5290		24900	
Antimony	mg/Kg	450	0.26	U	--		0.76	B	0.56	U
Arsenic	mg/Kg	19	1.3	B	--		6.8		1.4	U
Barium	mg/Kg	59000	3100		--		163		21.9	B
Beryllium	mg/Kg	140	0.089	U	--		0.62		0.075	U
Cadmium	mg/Kg	78	2		--		0.32	B	2.3	
Calcium	mg/Kg	--	74200		--		15200		98800	
Chromium ⁽³⁾	mg/Kg	120000	3640		--		867		9110	
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	800		--		59.7		1020	
Cobalt	mg/Kg	590	149		--		4.5	B	135	
Copper	mg/Kg	45000	11.3		--		46.2		16.6	
Iron	mg/Kg	--	80800		--		9810		87100	
Lead	mg/Kg	800	15.7		--		949		53.7	
Magnesium	mg/Kg	--	80100		--		1750		50900	
Manganese	mg/Kg	5900	714		--		136		750	
Mercury	mg/Kg	65	0.037	B	--		0.48		0.39	
Nickel	mg/Kg	23000	545		--		14		458	
Potassium	mg/Kg	--	158	B	--		675		60.8	U
Selenium	mg/Kg	5700	0.83	U	--		1		0.7	U
Silver	mg/Kg	5700	0.66	BJ	--		0.27	BJ	0.59	BJ
Sodium	mg/Kg	--	1740		--		233	B	901	B
Thallium	mg/Kg	79	1.9	B	--		0.65	B	4.1	
Vanadium	mg/Kg	1100	1620		--		18		1340	
Zinc	mg/Kg	110000	300		--		72.1		271	

TABLE 4-6

**ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion ⁽¹⁾	TSWC-03 05/07/08 Primary		TSWC-03-2 10/21/08 Resample		TSWC-04 05/07/08 Primary		TSWC-05 05/07/08 Primary	
Sample Depth			1.0-3.0 ft		0.0-3.0 ft		1.0-3.0 ft		1.0-3.0 ft	
VOC Sample Depth			2.0-3.0 ft		--		2.0-3.0 ft		2.0-3.0 ft	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾										
1,1-Dichloroethene	mg/L	0.7	0.035	U	--		0.035	U	0.035	U
1,2-Dichloroethane	mg/L	0.5	0.026	U	--		0.026	U	0.026	U
1,4-Dichlorobenzene	mg/L	7.5	0.034	J	--		0.0046	U	0.0046	U
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	--		0.0041	U	0.0041	U
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	--		0.0026	U	0.0026	U
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	--		0.0028	U	0.0028	U
2-Butanone	mg/L	200	0.029	U	--		0.029	U	0.029	U
Benzene	mg/L	0.5	0.033	U	--		0.033	U	0.033	U
Carbon Tetrachloride	mg/L	0.5	0.037	U	--		0.037	U	0.037	U
Chlorobenzene	mg/L	100	0.028	U	--		0.028	U	0.028	U
Chloroform	mg/L	6	0.031	U	--		0.031	U	0.031	U
Cresols	mg/L	200	0.0089	U	--		0.0089	U	0.0089	U
Hexachlorobenzene	mg/L	0.13	0.0049	U	--		0.0049	U	0.0049	U
Hexachlorobutadiene	mg/L	0.5	0.0033	U	--		0.0033	U	0.0033	U
Hexachloroethane	mg/L	3	0.0036	U	--		0.0036	U	0.0036	U
Nitrobenzene	mg/L	2	0.0056	U	--		0.0056	U	0.0056	U
Pentachlorophenol	mg/L	100	0.005	U	--		0.005	U	0.005	U
Pyridine	mg/L	5	0.011	U	--		0.011	U	0.011	U
Tetrachloroethene	mg/L	0.7	0.023	U	--		0.023	U	0.023	U
Trichloroethene	mg/L	0.5	0.035	U	--		0.035	U	0.035	U
Vinyl chloride	mg/L	0.2	0.038	U	--		0.038	U	0.038	U
Arsenic	mg/L	5	0.14	BJ	--		0.13	B	0.15	B
Barium	mg/L	100	0.61	BJ	--		0.95	B	0.0058	B
Cadmium	mg/L	1	0.0012	U	--		0.0016	B	0.0012	U
Chromium	mg/L	5	14.3	J	--		0.053	B	27.4	
Lead	mg/L	5	0.03	B	--		1.2		0.018	B
Mercury	mg/L	0.2	0.000055	U	--		0.000055	U	0.000055	U
Selenium	mg/L	1	0.015	U	--		0.015	U	0.015	U
Silver	mg/L	5	0.0025	U	--		0.0025	U	0.0025	U
RCRA Characteristics and Indicators										
Corrosivity	SU	2<pH<12.5	11.4		--		8.63		10.45	
Cyanide	mg/Kg	23000	1.3	J	--		0.76	J	5.7	J
Total Sulfide (Reactivity)	mg/Kg		17.7	U	--		66.5		14.9	U
Ignitability	None		No		--		No		No	
Percent Solids	%		77.4		--		77.1		73.7	

TABLE 4-6

**ANALYTICAL RESULTS
PIPE RUN TRENCH SPOIL
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise
2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26
3. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
4. Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 (ecfr.gpoaccess.gov).
available at electronic CFR website

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Organic results. Analyte detected in associated method blank
- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration.
Analyte may be present below the quantitation limit indicated.
- S - Organic results. Ion suppression.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-7
ANALYTICAL RESULTS
SEPTIC TANK SOLIDS SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	ST-02-S 05/29/08 Primary		ST-03-S 05/29/08 Primary		ST-04-S 05/29/08 Primary		ST-05-S 05/29/08 Primary		ST-06-S 05/29/08 Primary		ST-07-S 05/29/08 Primary	
Volatile Organics														
1,1,1-Trichloroethane	mg/Kg	4200	12	U	3.6	U	110	U	8.8	U	52	U	200	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	12	U	4	U	120	U	9.8	U	58	U	220	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	12	U	4.4	U	130	U	11	U	63	U	240	U
1,1,2-Trichloroethane	mg/Kg	6	12	U	3.8	U	120	U	9.2	U	55	U	210	U
1,1-Dichloroethane	mg/Kg	24	12	U	3.4	U	110	U	8.5	U	50	U	190	U
1,1-Dichloroethene	mg/Kg	150	12	U	4.1	U	130	U	10	U	60	U	230	U
1,2,4-Trichlorobenzene	mg/Kg	820	12	U	120		2600		12	J	360		6300	
1,2-Dibromoethane	mg/Kg	0.04	12	U	3.7	U	110	U	9	U	53	U	200	U
1,2-Dichlorobenzene	mg/Kg	59000	12	U	1100		8500		26	J	2500		32000	
1,2-Dichloroethane	mg/Kg	3	12	U	3.9	U	120	U	9.5	U	56	U	210	U
1,2-Dichloropropane	mg/Kg	5	12	U	3.9	U	120	U	9.6	U	57	U	210	U
1,3-Dichlorobenzene	mg/Kg	59000	12		380		9900		27	J	1400		27000	
1,4-Dichlorobenzene	mg/Kg	13	12		680		6400		21	J	2700		16000	
2-Butanone	mg/Kg	44000	12	U	3.4	U	110	U	8.4	U	50	U	190	U
2-Hexanone	mg/Kg	--	12	U	2.8	U	87	U	6.9	U	41	U	150	U
4-Methyl-2-pentanone	mg/Kg	--	12	U	3.1	U	95	U	7.5	U	45	U	170	U
Acetone	mg/Kg	--	12	U	4.2	U	130	U	10	U	61	U	230	U
Benzene	mg/Kg	5	12	J	21		110	U	70		53	U	200	U
Bromodichloromethane	mg/Kg	3	12	U	3.4	U	110	U	8.4	U	50	U	190	U
Bromoform	mg/Kg	280	12	U	3.6	U	110	U	8.8	U	52	U	200	U
Bromomethane	mg/Kg	59	12	U	4.5	U	140	U	11	U	65	U	240	U
Carbon disulfide	mg/Kg	110000	12	U	4.3	U	130	U	11	U	63	U	240	U
Carbon tetrachloride	mg/Kg	2	12	U	3.2	U	98	U	7.7	U	46	U	170	U
Chlorobenzene	mg/Kg	7400	12		2200		1000		1200		420		980	
Chloroethane	mg/Kg	1100	12	U	5.1	U	160	U	12	U	74	U	280	U
Chloroform	mg/Kg	2	12	U	3.7	U	120	U	9.2	U	54	U	200	U
Chloromethane	mg/Kg	12	12	U	3.9	U	120	U	9.6	U	57	U	210	U
cis-1,2-Dichloroethene	mg/Kg	560	12	U	3.8	U	120	U	9.4	U	55	U	210	U
cis-1,3-Dichloropropene	mg/Kg	7	12	U	3.2	U	98	U	7.8	U	46	U	170	U
Cyclohexane	mg/Kg	--	12	U	3.5	U	110	U	8.7	U	51	U	190	U
Dibromochloromethane	mg/Kg	8	12	U	3.3	U	100	U	8	U	48	U	180	U
Dibromochloropropane	mg/Kg	--	12	U	3	U	92	U	7.3	U	43	U	160	U
Dichlorodifluoromethane	mg/Kg	230000	12	U	4.5	U	140	U	11	U	66	U	250	U
Ethylbenzene	mg/Kg	110000	12	U	4.2	U	130	U	10	U	61	U	230	U
Isopropylbenzene	mg/Kg	--	12	U	3.8	U	120	U	9.3	U	55	U	210	U
Methyl Acetate	mg/Kg	--	12	U	3.7	U	120	U	13	J	54	U	200	U
Methylcyclohexane	mg/Kg	--	12	U	4	U	120	U	9.7	U	58	U	220	U
Methylene chloride	mg/Kg	97	12	U	2.7	U	84	U	6.7	U	39	U	150	U
Methyltert-butylether	mg/Kg	320	12	U	3.3	U	100	U	8	U	47	U	180	U
Styrene	mg/Kg	260	12	U	3.9	U	120	U	9.7	U	57	U	210	U
Tetrachloroethene	mg/Kg	5	12	U	4.6	U	140	U	11	U	67	U	250	U
Toluene	mg/Kg	91000	12	U	6.2	J	87	U	6.9	U	41	U	150	U
trans-1,2-Dichloroethene	mg/Kg	720	12	U	4.1	U	130	U	10	U	60	U	220	U
trans-1,3-Dichloropropene	mg/Kg	7	12	U	3.1	U	95	U	7.6	U	45	U	170	U
Trichloroethene	mg/Kg	20	12	U	4	U	120	U	9.7	U	58	U	220	U
Trichlorofluoromethane	mg/Kg	340000	12	U	5.7	U	180	U	14	U	83	U	310	U
Vinyl chloride	mg/Kg	2	12	U	3.9	U	120	U	9.7	U	57	U	210	U
Xylene (total)	mg/Kg	170000	12	U	12	U	390	U	31	U	180	U	680	U
Semivolatile Organics														
1,1'-Biphenyl	mg/Kg	34000	160		4.5	J	130		3.7	J	7.1	J	52	
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.39	U	2	U	7.3	U	2.1	U	3.9	U	3	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.53	U	2.8	U	10	U	3	U	5.3	U	4.2	U
2,4,6-Trichlorophenol	mg/Kg	74	0.52	U	2.7	U	9.8	U	2.9	U	5.2	U	4.1	U
2,4-Dichlorophenol	mg/Kg	2100	0.19	U	1	U	3.6	U	1.1	U	1.9	U	1.5	U
2,4-Dimethylphenol	mg/Kg	14000	0.28	U	1.4	U	5.2	U	1.5	U	2.8	U	2.2	U
2,4-Dinitrophenol	mg/Kg	1400	7.6	U	40	U	140	U	42	U	76	U	60	U
2,4-Dinitrotoluene	mg/Kg	3	0.33	U	1.7	U	6.2	U	1.8	U	3.3	U	2.6	U
2,6-Dinitrotoluene	mg/Kg	3	0.42	U	2.2	U	7.8	U	2.3	U	4.1	U	3.3	U
2-Chloronaphthalene	mg/Kg	--	0.37	U	1.9	U	7	U	2.1	U	3.7	U	2.9	U
2-Chlorophenol	mg/Kg	2200	0.32	U	1.7	U	6.1	U	1.8	U	3.2	U	2.5	U
2-Methylnaphthalene	mg/Kg	2400	170		6	J	4500		32	J	68		1700	
2-Methylphenol	mg/Kg	3400	0.4	U	2.1	U	7.6	U	2.2	U	4	U	3.2	U
2-Nitroaniline	mg/Kg	23000	0.39	U	2	U	7.3	U	2.1	U	3.9	U	3	U
2-Nitrophenol	mg/Kg	--	0.51	U	2.7	U	9.6	U	2.8	U	5.1	U	4	U
3,3'-Dichlorobenzidine	mg/Kg	4	1.5	U	7.6	U	27	U	8	U	14	U	11	U
3-Nitroaniline	mg/Kg	--	0.55	U	2.9	U	10	U	3.1	U	5.5	U	4.3	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	4.6	U	24	U	85	U	25	U	45	U	36	U
4-Bromophenylphenyl ether	mg/Kg	--	0.29	U	1.5	U	5.4	U	1.6	U	2.9	U	2.3	U
4-Chloro-3-methylphenol	mg/Kg	--	0.39	U	2.1	U	7.4	U	2.2	U	3.9	U	3.1	U
4-Chloroaniline	mg/Kg	--	0.56	U	3.2	J	10	U	3.1	U	5.6	U	4.4	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.32	U	1.7	U	6	U	1.8	U	3.2	U	2.5	U
4-Methylphenol	mg/Kg	340	0.4	U	26	J	52	J	2.2	U	4	U	5	J
4-Nitroaniline	mg/Kg	--	0.27	U	1.4	U	5.1	U	1.5	U	6.2	J	2.1	U
4-Nitrophenol	mg/Kg	--	0.5	U	2.6	U	9.4	U	2.8	U	5	U	3.9	U
Acenaphthene	mg/Kg	37000	11		2.4	J	12	J	6.6	J	11	J	5.6	J
Acenaphthylene	mg/Kg	300000	0.38	U	2	U	7	U	2.1	U	3.7	U	2.9	U
Acetophenone	mg/Kg	5	0.39	U	2	U	7.3	U	2.2	U	3.9	U	3.1	U
Anthracene	mg/Kg	30000	5	J	1.9	U	6.9	U	4.7	J	3.7	U	2.9	U
Atrazine	mg/Kg	2400	0.44	U	2.3	U	8.3	U	2.5	U	4.4	U	3.5	U
Benzaldehyde	mg/Kg	68000	0.68	U	3.6	U	13	U	3.8	U	6.8	U	5.4	U
Benzo(a)anthracene	mg/Kg	2	2.3	J	3.7	J	4.8	U	22	J	8.1	J	2	U
Benzo(a)pyrene	mg/Kg	0.2	1.5	J	3.9	J	6.7	J	19	J	5.9	J	1.6	U
Benzo(b)fluoranthene	mg/Kg	2	2.8	J	4	J	4.7	U	36		9.7	J	1.9	U
Benzo(ghi)perylene	mg/Kg	30000	1	J	5	J	4.1	U	15	J	2.2	U	1.7	U
Benzo(k)fluoranthene	mg/Kg	23	0.21	U	1.1	U	3.9	U	1.1	U	2.1	U	1.6	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.3	U	1.6	U	5.6	U	1.7.					

TABLE 4-7
ANALYTICAL RESULTS
SEPTIC TANK SOLIDS SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	ST-02-S 05/29/08 Primary		ST-03-S 05/29/08 Primary		ST-04-S 05/29/08 Primary		ST-05-S 05/29/08 Primary		ST-06-S 05/29/08 Primary		ST-07-S 05/29/08 Primary	
Semivolatile Organics (Continued)														
Bis(2-ethylhexyl)phthalate	mg/Kg	140	18		16	J	56	J	11	J	4.9	U	12	J
Butyl benzyl phthalate	mg/Kg	14000	0.52	U	4.6	J	9.7	U	2.9	U	5.2	U	4.1	U
Caprolactam	mg/Kg	340000	1.2	U	6.4	U	23	U	6.8	U	12	U	9.6	U
Carbazole	mg/Kg	96	0.7	J	2.5	J	5	U	1.5	U	2.6	U	2.1	U
Chrysene	mg/Kg	230	2.4	J	3.5	J	7.8	J	24	J	8.4	J	2	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.41	U	2.1	U	7.7	U	3.3	J	4.1	U	3.2	U
Dibenzofuran	mg/Kg	--	6.2	J	1.9	U	6.7	U	3.8	J	8.6	J	9	J
Diethyl phthalate	mg/Kg	550000	0.58	U	3.3	J	11	U	3.2	U	5.8	U	4.5	U
Dimethyl phthalate	mg/Kg	--	0.37	U	1.9	U	6.8	U	2	U	3.6	U	2.9	U
Di-n-butyl phthalate	mg/Kg	68000	1.1	U	5.6	U	20	U	5.9	U	11	U	8.4	U
Di-n-octyl phthalate	mg/Kg	27000	0.57	J	3.5	J	8.4	U	2.5	U	4.5	U	3.5	U
Fluoranthene	mg/Kg	24000	11		5.2	J	16	J	36		14	J	3.3	U
Semivolatile Organics (Continued)														
Fluorene	mg/Kg	24000	8.8		2.1	J	5.9	U	4.9	J	5.3	J	2.4	U
Hexachlorobenzene	mg/Kg	1	1.1	J	2	U	7.3	U	2.1	U	3.9	U	3	U
Hexachlorobutadiene	mg/Kg	25	0.39	U	3	J	7.4	U	2.2	U	3.9	U	3.1	U
Hexachlorocyclopentadiene	mg/Kg	110	0.3	U	1.5	U	5.6	U	1.6	U	3	U	2.3	U
Hexachloroethane	mg/Kg	140	0.29	U	4.7	J	5.4	U	1.6	U	2.9	U	2.3	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.98	J	2.4	J	4.3	U	12	J	2.3	U	1.8	U
Isophorone	mg/Kg	2000	0.36	U	1.9	U	6.7	U	2	U	3.6	U	2.8	U
Naphthalene	mg/Kg	17	33		81		1100		620		1100		390	
Nitrobenzene	mg/Kg	340	0.16	U	0.84	U	3	U	0.89	U	1.6	U	1.3	U
N-Nitrosodiphenylamine	mg/Kg	390	0.35	U	1.8	U	6.6	U	1.9	U	3.5	U	2.7	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.16	U	0.82	U	3	U	0.87	U	1.6	U	1.2	U
Pentachlorophenol	mg/Kg	10	0.48	U	2.5	U	9	U	2.7	U	4.8	U	3.8	U
Phenanthrene	mg/Kg	300000	25		4	J	11	J	26	J	8.7	J	2.4	U
Phenol	mg/Kg	210000	0.56	J	2	U	7.3	U	2.2	U	3.9	U	3	U
Pyrene	mg/Kg	18000	7.6		3.8	J	13	J	29	J	9.7	J	5.1	J
Polychlorinated Biphenyls (Aroclors)														
Aroclor 1016	mg/Kg	1	0.24	U	0.013	U	0.018	U	0.013	U	0.0048	U	0.019	U
Aroclor 1221	mg/Kg	1	0.31	U	0.016	U	0.023	U	0.017	U	0.0062	U	0.024	U
Aroclor 1232	mg/Kg	1	74		0.015	U	1.5		0.93		1		7.5	
Aroclor 1242	mg/Kg	1	0.26	U	0.014	U	0.02	U	0.015	U	0.0053	U	0.021	U
Aroclor 1248	mg/Kg	1	0.15	U	0.0081	U	0.011	U	0.0085	U	0.0031	U	0.012	U
Aroclor 1254	mg/Kg	1	0.23	U	0.012	U	0.017	U	0.013	U	0.0046	U	0.018	U
Aroclor 1260	mg/Kg	1	4		0.012	U	0.18	P	0.21		0.21		0.51	P
Aroclor 1262	mg/Kg	1	0.35	U	0.019	U	0.026	U	0.02	U	0.0071	U	0.028	U
Aroclor 1268	mg/Kg	1	0.21	U	0.011	U	0.015	U	0.012	U	0.0042	U	0.016	U
Metals														
Aluminum	mg/Kg	--	8250		7140		2230		6100		6980		8970	
Antimony	mg/Kg	450	9.4		2	B	2.6	B	1.3	B	11.9		6.8	B
Arsenic	mg/Kg	19	16.7		7.6		6.5	B	14.6		20.2		13.7	
Barium	mg/Kg	59000	216	J	67.1	BJ	72	BJ	198	J	621	J	82.4	BJ
Beryllium	mg/Kg	140	2.7		0.34	B	0.22	U	0.37	B	0.57	B	0.23	U
Cadmium	mg/Kg	78	1.8		1.5	B	2.4	B	8.4		0.33	B	0.53	B
Calcium	mg/Kg	--	10600		6130		16700		40900		10600		5130	
Chromium ⁽²⁾	mg/Kg	120000	4570		2360		701		2290		2850		10500	
Cobalt	mg/Kg	590	40.6		9.3	B	18.3	B	185		21.5		21.3	B
Copper	mg/Kg	45000	692		247		228		451		590		510	
Iron	mg/Kg	--	65900		41100		45600		34400		183000		34000	
Lead	mg/Kg	800	2950		438		182		301		9330		2940	
Magnesium	mg/Kg	--	5720		3450		1960	B	9560		2640		5120	
Manganese	mg/Kg	5900	443		146		311		307		642		75.2	
Mercury	mg/Kg	65	4.8		2		9.1		11		6.1		1	
Nickel	mg/Kg	23000	255		60.1		34.7		97.5		178		194	
Potassium	mg/Kg	--	488	B	452	B	417	B	629	B	674	B	520	B
Selenium	mg/Kg	5700	2.2		1.5	U	2.8	B	2.7		3.4		5.5	
Silver	mg/Kg	5700	9.3	J	6.2	J	1.8	BJ	1.5	BJ	22.5	J	1.7	BJ
Sodium	mg/Kg	--	451	B	1250	B	5790		6740		2300		10600	
Thallium	mg/Kg	79	1.9		1.7	U	2.3	U	1.7	U	4		2.4	U
Vanadium	mg/Kg	1100	249		115		77.1		210		78.8		651	
Zinc	mg/Kg	110000	1910	E	530		1070		1070		196		224	
Indicator Parameters														
Corrosivity (pH)	SU	2<pH<12.5	7.2		7.4		7.5		7.4		8.1		8.5	
Cyanide	mg/Kg	23000	1.2		1.9	B	0.78	B	0.72	B	0.75	B	0.85	B
Total Sulfide	mg/Kg	--	1090		6920		3210		16600		1790		4390	
Ignitability	none	--	No		No		No		No		No		No	
Percent Solids	%	--	51.4		19.3		13.7		18.6		50.9		13.1	

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.

2. Nonpromulgated criteria for total (trivalent) determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).

Criterion for residential exposure to trivalent chromium was used for total chromium.

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.

J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.

J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.

P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.

U - Not detected at the detection limit indicated.

-- - Not analyzed or criteria unavailable.

TABLE 4-8

ANALYTICAL RESULTS

SEPTIC TANK WATER SAMPLES

STANDARD CHLORINE SITE

KEARNY, NEW JERSEY

Constituent of Interest	Units	Discharge Limits		ST-02-W 05/29/08		ST-03-W 05/29/08		ST-04-W 05/29/08		ST-05-W 05/29/08		ST-06-W 05/29/08		ST-07-W 05/29/08	
		NJDEP BGR Permit ⁽¹⁾													
		Mthly Avg.	Daily Max.	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary				
Volatile Organics															
1,1,1-Trichloroethane	ug/L	21	54	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	ug/L	--	10	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--	--	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U	0.33	U
1,1,2-Trichloroethane	ug/L	21	54	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,1-Dichloroethane	ug/L	22	59	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	ug/L	26	25	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
1,2,4-Trichlorobenzene	ug/L	68	140	0.38	U	0.48	J	17		1.7	J	0.38	U	12	
1,2-Dibromoethane	ug/L	--	--	0.61	U	0.61	U	0.61	U	0.61	U	0.61	U	0.61	U
1,2-Dichlorobenzene	ug/L	77	163	0.68	U	0.96	J	0.68	U	1.5	J	1.2	J	9.2	
1,2-Dichloroethane	ug/L	68	211	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U	0.96	U
1,2-Dichloropropane	ug/L	153	230	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
1,3-Dichlorobenzene	ug/L	31	44	0.51	U	1.5	J	0.51	U	1	J	2.7	J	160	
1,4-Dichlorobenzene	ug/L	--	28	0.53	U	0.69	J	0.53	U	1.1	J	6.1		63	
2-Butanone	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
2-Hexanone	ug/L	--	--	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U
4-Methyl-2-pentanone	ug/L	--	--	0.59	U	0.59	U	0.59	U	0.59	U	0.59	U	0.59	U
Acetone	ug/L	--	--	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	ug/L	37	136	0.99	U	0.99	U	6.6		0.99	U	0.99	U	0.99	U
Bromodichloromethane	ug/L	--	12	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U
Bromoform	ug/L	29	58	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Bromomethane	ug/L	20	40	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
Carbon disulfide	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Carbon tetrachloride	ug/L	9	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Chlorobenzene	ug/L	15	28	0.53	U	0.64	J	8.2		1	J	8.7		15	
Chloroethane	ug/L	104	268	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Chloroform	ug/L	21	46	1	U	1	U	1	U	1	U	1	U	1	U
Chloromethane	ug/L	86	190	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
cis-1,2-Dichloroethene	ug/L	--	--	0.67	U	0.67	U	0.67	U	0.67	U	0.67	U	0.67	U
cis-1,3-Dichloropropene	ug/L	29	44	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U
Cyclohexane	ug/L	--	--	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Dibromochloromethane	ug/L	--	--	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U
Dibromochloropropane	ug/L	--	14	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dichlorodifluoromethane	ug/L	--	--	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
Ethylbenzene	ug/L	32	108	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U	0.62	U
Isopropylbenzene	ug/L	--	--	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U	0.53	U
Methyl Acetate	ug/L	--	--	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
Methylcyclohexane	ug/L	--	--	0.56	U	0.56	U	0.56	U	0.56	U	0.56	U	0.56	U
Methylene chloride	ug/L	40	89	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Methyltert-butylether	ug/L	--	--	1	U	1	U	1	U	1	U	1	U	1	U
Styrene	ug/L	--	--	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
Tetrachloroethene	ug/L	22	56	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
Toluene	ug/L	26	80	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
trans-1,2-Dichloroethene	ug/L	21	54	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	ug/L	29	44	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Trichloroethene	ug/L	21	54	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Trichlorofluoromethane	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Vinyl chloride	ug/L	104	268	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Xylene (total)	ug/L	--	--	2	U	2	U	2	U	2	U	2	U	2	U
Semivolatile Organics															
1,1'-Biphenyl	ug/L	--	--	0.62	U	0.63	U	0.65	U	0.62	U	0.63	U	0.63	U
2,2'-oxybis(1-chloropropane)	ug/L	301	757	0.27	U	0.27	U	0.28	U	0.27	U	0.27	U	0.27	U
2,4,5-Trichlorophenol	ug/L	--	--	0.64	U	0.65	U	0.68	U	0.64	U	0.65	U	0.65	U
2,4,6-Trichlorophenol	ug/L	--	20	0.59	U	0.59	U	0.61	U	0.59	U	0.59	U	0.59	U
2,4-Dichlorophenol	ug/L	39	112	0.5	U	0.51	U	0.52	U	0.5	U	0.51	U	6.8	J
2,4-Dimethylphenol	ug/L	18	36	0.53	U	0.54	U	0.56	U	0.53	U	0.54	U	0.54	U
2,4-Dinitrophenol	ug/L	71	123	13	U	13	U	14	U	13	U	13	U	13	U
2,4-Dinitrotoluene	ug/L	--	18	0.47	U	0.47	U	0.49	U	0.47	U	0.47	U	0.47	U
2,6-Dinitrotoluene	ug/L	255	641	0.52	U	0.53	U	0.55	U	0.52	U	0.53	U	0.53	U
2-Chloronaphthalene	ug/L	--	--	0.46	U	0.46	U	0.48	U	0.46	U	0.46	U	0.46	U
2-Chlorophenol	ug/L	31	98	0.47	U	0.47	U	0.49	U	0.47	U	0.47	U	0.47	U
2-Methylnaphthalene	ug/L	--	--	0.48	U	0.49	U	0.97	J	0.48	U	0.49	U	0.49	U
2-Methylphenol	ug/L	--	--	0.53	U	0.53	U	0.55	U	0.53	U	0.53	U	0.53	U
2-Nitroaniline	ug/L	--	--	0.49	U	0.49	U	0.51	U	0.49	U	0.49	U	0.49	U
2-Nitrophenol	ug/L	41	69	0.56	U	0.56	U	0.58	U	0.56	U	0.56	U	0.56	U
3,3'-Dichlorobenzidine	ug/L	--	60	0.42	U	0.43	U	0.44	U	0.42	U	0.43	U	0.43	U
3-Nitroaniline	ug/L	--	--	0.41	U	0.42	U	0.43	U	0.41	U	0.42	U	0.42	U
4,6-Dinitro-2-methylphenol	ug/L	--	--	15	U	15	U	15	U	15	U	15	U	15	U
4-Bromophenylphenyl ether	ug/L	--	--	0.51	U	0.52	U	0.54	U	0.51	U	0.52	U	0.52	U
4-Chloro-3-methylphenol	ug/L	--	--	0.61	U	0.61	U	0.64	U	0.61	U	0.61	U	0.61	U
4-Chloroaniline	ug/L	--	--	0.48	U	0.48	U	0.5	U	0.48	U	0.48	U	0.48	U
4-Chlorophenyl phenyl ether	ug/L	--	--	0.44	U	0.44	U	0.46	U	0.44	U	0.44	U	0.44	U
4-Methylphenol	ug/L	--	--	0.76	U	0.77	U	0.8	U	0.76	U	0.77	U	0.77	U
4-Nitroaniline	ug/L	--	--	0.26	U	0.26	U	0.27	U	0.26	U	0.26	U	0.26	U
4-Nitrophenol	ug/L	72	124	0.72	U	0.73	U	0.76	U	0.72	U	0.73	U	0.73	U
Acenaphthene	ug/L	--	--	0.54	U	0.54	U	0.56	U	0.54	U	0.54	U	0.54	U
Acenaphthylene	ug/L	--	--	0.48	U	0.48	U	0.5	U	0.48	U	0.48	U	0.48	U
Acetophenone	ug/L	--	--	0.48	U	0.48	U	0.5	U	0.48	U	0.48	U	0.48	U
Anthracene	ug/L	22	59	0.52	U	0.53	U	0.55	U	0.52	U	0.53	U	0.53	U
Atrazine	ug/L	--	--	0.4	U	0.41	U	0.42	U	0.4	U	0.41	U	0.41	U
Benzaldehyde	ug/L	--	--	0.56	U	0.56	U	0.58	U	0.56	U	0.56	U	0.56	U
Benzo(a)anthracene	ug/L	--	10	0.42	U	0.43	U	0.44	U	1.1	J	0.43	U	1.1	J

TABLE 4-8

ANALYTICAL RESULTS

SEPTIC TANK WATER SAMPLES

STANDARD CHLORINE SITE

KEARNY, NEW JERSEY

Constituent of Interest	Units	Discharge Limits NJDEP BGR Permit ⁽¹⁾		ST-02-W 05/29/08 Primary		ST-03-W 05/29/08 Primary		ST-04-W 05/29/08 Primary		ST-05-W 05/29/08 Primary		ST-06-W 05/29/08 Primary		ST-07-W 05/29/08 Primary	
		Mthly Avg.	Daily Max.												
Benzo(a)pyrene	ug/L	--	20	0.45	U	0.46	U	0.47	U	0.85	J	0.46	U	0.98	J
Benzo(b)fluoranthene	ug/L	--	10	0.32	U	0.33	U	0.34	U	2.1	J	0.33	U	2	J
Benzo(ghi)perylene	ug/L	--	--	0.28	U	0.29	U	0.3	U	0.53	J	0.29	U	0.65	J
Benzo(k)fluoranthene	ug/L	--	20	0.41	U	0.41	U	0.43	U	0.41	U	0.41	U	0.41	U
Semivolatile Organics (Continued)															
Bis(2-chloroethoxy)methane	ug/L	--	--	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Bis(2-chloroethyl)ether	ug/L	--	10	0.47	U	0.48	U	0.5	U	0.47	U	0.48	U	0.48	U
Bis(2-ethylhexyl)phthalate	ug/L	59	118	1.2	U	1.2	U	1.3	U	1.2	U	1.2	U	1.2	U
Butyl benzyl phthalate	ug/L	--	24	1.4	U	1.4	U	1.5	U	1.4	U	1.4	U	1.4	U
Caprolactam	ug/L	--	--	1.9	U	2	U	2	U	1.9	U	2	U	2	U
Carbazole	ug/L	--	--	0.54	U	0.54	U	0.56	U	0.54	U	0.54	U	0.54	U
Chrysene	ug/L	--	20	0.37	U	0.37	U	0.38	U	1.6	J	0.37	U	1.1	J
Dibenzo(a,h)anthracene	ug/L	--	20	0.36	U	0.36	U	0.38	U	0.36	U	0.36	U	0.36	U
Dibenzofuran	ug/L	--	--	0.55	U	0.56	U	0.58	U	0.55	U	0.56	U	0.56	U
Diethyl phthalate	ug/L	81	203	2.5	U	2.5	U	2.6	U	2.5	U	2.5	U	2.5	U
Dimethyl phthalate	ug/L	19	47	0.43	U	0.44	U	0.46	U	0.43	U	0.44	U	0.44	U
Di-n-butyl phthalate	ug/L	27	57	0.48	U	0.48	U	0.5	U	0.48	U	0.48	U	0.48	U
Di-n-octyl phthalate	ug/L	--	--	0.44	U	0.44	U	0.46	U	0.44	U	0.44	U	0.44	U
Fluoranthene	ug/L	25	68	0.51	U	0.51	U	0.53	U	1.9	J	0.51	U	1.6	J
Fluorene	ug/L	22	59	0.56	U	0.56	U	0.59	U	0.56	U	0.56	U	0.56	U
Hexachlorobenzene	ug/L	--	10	0.45	U	0.45	U	0.47	U	0.45	U	0.45	U	0.45	U
Hexachlorobutadiene	ug/L	20	49	0.39	U	0.39	U	0.41	U	0.39	U	0.39	U	0.39	U
Hexachlorocyclopentadiene	ug/L	--	1800	0.82	U	0.83	U	0.86	U	0.82	U	0.83	U	0.83	U
Hexachloroethane	ug/L	21	54	0.45	U	0.45	U	0.47	U	0.45	U	0.45	U	0.45	U
Indeno(1,2,3-cd)pyrene	ug/L	--	20	0.49	U	0.49	U	0.51	U	0.55	J	0.49	U	0.56	J
Isophorone	ug/L	--	20	0.49	U	0.49	U	0.51	U	0.49	U	0.49	U	0.49	U
Naphthalene	ug/L	--	--	0.44	U	0.45	U	0.57	J	0.44	U	0.45	U	0.45	U
Nitrobenzene	ug/L	27	69	0.66	U	0.67	U	0.69	U	0.66	U	0.67	U	0.67	U
N-Nitrosodiphenylamine	ug/L	--	20	0.5	U	0.51	U	0.53	U	0.5	U	0.51	U	0.51	U
N-Nitrosodipropylamine	ug/L	--	--	0.61	U	0.62	U	0.64	U	0.61	U	0.62	U	0.62	U
Pentachlorophenol	ug/L	--	30	0.85	U	0.86	U	0.9	U	0.85	U	0.86	U	0.86	U
Phenanthrene	ug/L	22	59	0.57	U	0.57	U	0.59	U	0.63	J	0.57	U	0.66	J
Phenol	ug/L	15	26	0.23	U	0.23	U	0.24	U	0.23	U	0.23	U	0.23	U
Pyrene	ug/L	25	67	0.58	U	0.59	U	0.61	U	1.8	J	0.59	U	2.1	J
Polychlorinated Biphenyls (Aroclors)															
Aroclor 1016	ug/L	--	0.05	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Aroclor 1221	ug/L	--	0.05	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Aroclor 1232	ug/L	--	0.05	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Aroclor 1242	ug/L	--	0.05	0.076	U	0.076	U	0.075	U	0.075	U	0.076	U	0.076	U
Aroclor 1248	ug/L	--	0.05	0.093	U	0.093	U	0.092	U	0.092	U	0.093	U	0.093	U
Aroclor 1254	ug/L	--	0.05	0.093	U	0.093	U	0.092	U	0.092	U	0.093	U	0.093	U
Aroclor 1260	ug/L	--	0.05	0.055	U	0.055	U	0.055	U	0.055	U	0.055	U	0.055	U
Aroclor 1262	ug/L	--	0.05	0.084	U	0.084	U	0.083	U	0.083	U	0.084	U	0.084	U
Aroclor 1268	ug/L	--	0.05	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Metals															
Aluminum	ug/L	--	--	65.7	BJ	275	J	101	BJ	228	J	41.2	BJ	149	BJ
Antimony	ug/L	--	--	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
Arsenic	ug/L	50	100	4.9	B	3.6	B	2.2	U	9.7	B	2.3	B	2.2	U
Barium	ug/L	--	--	15.9	B	6.6	B	13.4	B	29.3	B	89.4	B	45.8	B
Beryllium	ug/L	--	--	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Cadmium	ug/L	50	100	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U	0.26	B
Calcium	ug/L	--	--	23100		12900		28700		32500		48200		76400	
Chromium	ug/L	50	100	3.9	B	2790		10.7		27.9		4.6	B	372	
Cobalt	ug/L	--	--	0.78	B	0.7	U	0.7	U	0.7	U	0.7	U	0.94	B
Copper	ug/L	50	100	28.1		1.6	B	5.2	B	3.8	B	0.72	U	2.6	B
Iron	ug/L	--	--	123		231		709		537		758		69.8	B
Lead	ug/L	50	100	2.4	U	2.4	U	10.8		11.4		10.9		2.4	U
Magnesium	ug/L	--	--	7900		7920		7860		9710		26700		96100	
Manganese	ug/L	--	--	131		13	B	63		28.9		153		72.1	
Mercury	ug/L	--	1	0.055	U	0.055	U	0.055	U	0.055	U	0.055	U	0.055	U
Nickel	ug/L	50	100	2.1	B	1.1	U	1.1	U	2.2	B	1.1	U	1.8	B
Potassium	ug/L	--	--	2650	B	4910	B	1130	B	15000		13600		47000	
Selenium	ug/L	50	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Silver	ug/L	25	50	0.59	U	0.59	U	0.59	U	0.59	U	0.59	U	0.59	U
Sodium	ug/L	--	--	12000	E	30300		6720		118000		211000		956000	
Thallium	ug/L	--	--	3.1	U	5.6	B	3.1	U	3.1	U	3.1	U	3.1	U
Vanadium	ug/L	--	--	12	B	109		6.5	B	15.3	B	1	U	24.3	B
Zinc	ug/L	100	200	7.7	BJ	11.8	BJ	11.6	BJ	16.3	BJ	10.9	B	25.8	J

Notes:

1. Criteria are as specified in the NJDEP Statewide Final NJPDES General Remediation Clean-up Permit (GRC) dated April 21, 2005. NJPDES Permit No. NJ0155438 Part III.

Potential exceedances of discharge limits are highlighted. Results which exceed both the monthly average and daily maximum are shown in bold, shaded typeface. Results which exceed the monthly average but not the daily maximum are shown in shaded typeface. Results which exceed the daily maximum but not the monthly average (i.e., when a daily maximum limit does not exist) are shown in bold typeface.

Data qualifiers are as follows:

- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-9
ANALYTICAL RESULTS
SEPTIC TANK SOILS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	ST-1-E 11/22/2011	ST-1-N 11/22/2011	ST-1-S 11/22/2011	ST-1A-E 12/6/2011	ST-1A-N 12/6/2011	ST-1A-W 12/6/2011	ST-1B-E 11/22/2011	ST-1B-N 11/22/2011	ST-1B-S 11/22/2011	ST-1B-W 11/22/2011	ST-2-E 12/8/2011	ST-2-N 12/7/2011	ST-2-S 12/7/2011	ST-3-E 12/7/2011	ST-3-E DUP 12/7/2011															
Volatile Organics																																
1,1,1-Trichloroethane	mg/Kg	4200	0.00023	U	0.00021	U	0.023	U	0.00017	U	0.00021	U	0.00017	U	1	U	0.00019	U	0.0002	U	0.023	U	0.039	U	0.31	U	0.24	U	0.023	U	0.023	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.00094	U	0.00086	U	0.0079	U	0.00067	U	0.00086	U	0.0007	U	0.35	U	0.00075	U	0.00081	U	0.0079	U	0.014	U	0.11	U	0.084	U	0.0081	U	0.008	U
1,1,2-Trichloroethane	mg/Kg	6	0.00074	U	0.00067	U	0.0089	U	0.00053	U	0.00067	U	0.00055	U	0.4	U	0.00059	U	0.00063	U	0.0089	U	0.015	U	0.12	U	0.095	U	0.0092	U	0.009	U
1,1-Dichloroethane	mg/Kg	24	0.00031	U	0.00029	U	0.0092	U	0.00022	U	0.00028	U	0.00023	U	0.41	U	0.00025	U	0.00027	U	0.0092	U	0.016	U	0.12	U	0.097	U	0.0094	U	0.0092	U
1,1-Dichloroethene	mg/Kg	150	0.00046	U	0.00042	U	0.013	U	0.00033	U	0.00042	U	0.00034	U	0.57	U	0.00037	U	0.00039	U	0.013	U	0.022	U	0.18	U	0.14	U	0.013	U	0.013	U
1,2-Dichloroethane	mg/Kg	3	0.00048	U	0.00044	U	0.023	U	0.00035	U	0.00044	U	0.00036	U	1	U	0.00039	U	0.00041	U	0.023	U	0.039	U	0.31	U	0.24	U	0.023	U	0.023	U
1,2-Dichloropropane	mg/Kg	5	0.00094	J	0.00036	U	0.008	U	0.00028	U	0.00036	U	0.00029	U	0.36	U	0.00031	U	0.00034	U	0.008	U	0.014	U	0.11	U	0.085	U	0.0082	U	0.0081	U
2-Butanone	mg/Kg	44000	0.00071	U	0.00065	U	0.075	U	0.0058	J	0.00064	U	0.00053	U	3.4	U	0.0095	J	0.0006	U	0.075	U	0.13	U	1	U	0.8	U	0.077	U	0.076	U
2-Hexanone	mg/Kg	--	0.0021	U	0.0019	U	0.05	U	0.0015	U	0.0019	U	0.0016	U	2.2	U	0.0017	U	0.0018	U	0.05	U	0.086	U	0.68	U	0.53	U	0.052	U	0.05	U
4-Methyl-2-pentanone	mg/Kg	--	0.00089	U	0.00081	U	0.062	U	0.00063	U	0.00081	U	0.00066	U	2.8	U	0.00071	U	0.00076	U	0.063	U	0.11	U	0.85	U	0.66	U	0.064	U	0.063	U
Acetone	mg/Kg	--	0.014		0.012		0.23	U	0.028		0.0042	U	0.0068	J	10	U	0.058		0.013		0.23	U	0.39	U	3.1	U	2.4	U	0.23	U	0.23	U
Benzene	mg/Kg	5	0.00092	U	0.0031		0.066	J	0.00071	J	0.00084	U	0.00069	U	0.48	U	0.00073	U	0.00079	U	0.024	J	0.15	J	0.15	U	0.12	U	0.05	J	0.058	J
Bromodichloromethane	mg/Kg	3	0.00038	U	0.00034	U	0.0082	U	0.00027	U	0.00034	U	0.00028	U	0.37	U	0.0003	U	0.00032	U	0.0082	U	0.014	U	0.11	U	0.087	U	0.0085	U	0.0083	U
Bromoform	mg/Kg	280	0.00087	U	0.0008	U	0.0091	U	0.00062	U	0.00079	U	0.00065	U	0.4	U	0.00069	U	0.00074	U	0.0091	U	0.016	U	0.12	U	0.096	U	0.0094	U	0.0092	U
Bromomethane	mg/Kg	59	0.00051	U	0.00046	U	0.029	U	0.00036	U	0.00046	U	0.00038	U	1.3	U	0.00041	U	0.00043	U	0.029	U	0.049	U	0.39	U	0.3	U	0.03	U	0.029	U
Carbon disulfide	mg/Kg	110000	0.00058	U	0.00063	J	0.013	U	0.00041	U	0.00053	U	0.00043	U	0.6	U	0.00046	U	0.00049	U	0.013	U	0.023	U	0.18	U	0.14	U	0.014	U	0.013	U
Carbon tetrachloride	mg/Kg	2	0.00013	U	0.00011	U	0.016	U	0.00009	U	0.00011	U	0.000094	U	0.74	U	0.0001	U	0.00011	U	0.017	U	0.028	U	0.22	U	0.17	U	0.017	U	0.017	U
Chlorobenzene	mg/Kg	7400	0.061		0.055		9.7		0.00043	U	0.0097		0.00045	U	220		0.018		0.0085		6.7		6.7		370		9.1		3.7		3.8	
Chloroethane	mg/Kg	1100	0.00049	U	0.00045	U	0.041	U	0.00035	U	0.00045	U	0.00037	U	1.8	U	0.0004	U	0.00042	U	0.041	U	0.07	U	0.56	U	0.43	U	0.042	U	0.041	U
Chloroform	mg/Kg	2	0.00029	U	0.00027	U	0.014	U	0.00021	U	0.00027	U	0.00022	U	0.63	U	0.00023	U	0.00025	U	0.014	U	0.024	U	0.19	U	0.15	U	0.015	U	0.014	U
Chloromethane	mg/Kg	12	0.00079	U	0.00072	U	0.019	U	0.00056	U	0.00072	U	0.00059	U	0.86	U	0.00063	U	0.00067	U	0.019	U	0.033	U	0.26	U	0.2	U	0.02	U	0.019	U
cis-1,2-Dichloroethene	mg/Kg	560	0.00029	U	0.00027	U	0.018	U	0.00021	U	0.00027	U	0.00022	U	0.79	U	0.00023	U	0.00025	U	0.018	U	0.03	U	0.24	U	0.19	U	0.018	U	0.018	U
cis-1,3-Dichloropropene	mg/Kg	7	0.00025	U	0.00023	U	0.0094	U	0.00018	U	0.00023	U	0.00019	U	0.42	U	0.0002	U	0.00021	U	0.0094	U	0.016	U	0.13	U	0.099	U	0.0096	U	0.0094	U
Dibromochloromethane	mg/Kg	8	0.00069	U	0.00064	U	0.0092	U	0.0005	U	0.00063	U	0.00052	U	0.41	U	0.00055	U	0.00059	U	0.0092	U	0.016	U	0.13	U	0.098	U	0.0095	U	0.0093	U
Ethylbenzene	mg/Kg	110000	0.00048	J	0.00022	U	0.023	U	0.00017	U	0.00022	U	0.00018	U	1	U	0.00019	U	0.0002	U	0.023	U	0.11	J	2.4		0.42	J	0.023	U	0.023	U
Methylene Chloride	mg/Kg	97	0.0023		0.00053	U	0.018	U	0.00042	U	0.00053	U	0.00044	U	0.79	U	0.0018		0.0027		0.018	U	0.03	U	0.24	U	0.19	U	0.018	U	0.018	U
Styrene	mg/Kg	260	0.00043	U	0.00039	U	0.013	U	0.00031	U	0.00039	U	0.00032	U	0.57	U	0.00034	U	0.00037	U	0.013	U	0.022	U	0.17	U	0.13	U	0.013	U	0.013	U
Tetrachloroethene	mg/Kg	5	0.00041	U	0.00037	U	0.018	U	0.00029	U	0.00037	U	0.00031	U	7.9		0.00033	U	0.00035	U	0.018	U	0.17		0.24	U	0.19	U	0.018	U	0.018	U
Toluene	mg/Kg	91000	0.00037	U	0.00034	U	0.0087	U	0.00027	U	0.00034	U	0.00028	U	0.39	U	0.0003	U	0.00032	U	0.0087	U	0.052	J	0.12	U	0.092	U	0.0089	U	0.0088	U
trans-1,2-Dichloroethene	mg/Kg	720	0.00035	U	0.00032	U	0.013	U	0.00025	U	0.00032	U	0.00026	U	0.56	U	0.00028	U	0.0003	U	0.013	U	0.022	U	0.17	U	0.13	U	0.013	U	0.013	U
trans-1,3-Dichloropropene	mg/Kg	7	0.00027	U	0.00025	U	0.011	U	0.0002	U	0.00025	U	0.0002	U	0.5	U	0.00022	U	0.00023	U	0.011	U	0.019	U	0.15	U	0.12	U	0.012	U	0.011	U
Trichloroethene	mg/Kg	20	0.00045	U	0.00041	U	0.016	U	0.00032	U	0.00041	U	0.00034	U	0.73	U	0.00036	U	0.00039	U	0.016	U	0.028	U	0.22	U	0.17	U	0.017	U	0.016	U
Vinyl chloride	mg/Kg	2	0.00029	U	0.00027	U	0.011	U	0.00021	U	0.00026	U	0.00022	U	0.49	U	0.00023	U	0.00025	U	0.011	U	0.019	U	0.15	U	0.12	U	0.011	U	0.011	U
Xylenes, Total	mg/Kg	170000	0.00097	U	0.00089	U	0.04	U	0.0007	U	0.00089	U	0.00073	U	1.8	U	0.00078	U	0.00083	U	0.04	U	0.64		3.4	J	1	J	0.041	U	0.04	U
Metals																																
Chromium ⁽²⁾	mg/Kg	120000	110		430		250		25		290		420		6100		110		320		28		630		30		110		90		54	
Chromium, hexavalent	mg/Kg	20	1.8	U	3.7		1.6	U	1.7	U	2.8		1.7	U	4		1.6	U	8		1.7	U	5.8		1.8	U	1.8	U	1.7	U	0.17	U

TABLE 4-9
ANALYTICAL RESULTS
SEPTIC TANK SOILS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	ST-3-N 12/6/2011		ST-3-S 12/7/2011		ST-3-W 12/7/2011		ST-4-E 12/7/2011		ST-4-N 12/7/2011		ST-4-S 12/7/2011		ST-4-W 12/7/2011		ST-5-E 12/7/2011		ST-5-S 12/7/2011		ST-5-W 12/8/2011		ST-6-E 12/7/2011		ST-6-N 12/7/2011		ST-6-S 12/7/2011		ST-6-W 12/7/2011		ST-7-E 12/8/2011		ST-7-N 12/8/2011		ST-7-N-DUP 12/8/2011	
Volatile Organics																																		
1,1,1-Trichloroethane	0.0002	U	0.028	U	0.026	U	0.0002	U	0.0003	U	0.027	U	0.72	U	0.00033	U	0.00051	U	0.027	U	0.00038	U	0.00037	U	0.00029	U	0.00039	U	0.037	U	0.26	U	0.22	U
1,1,2,2-Tetrachloroethane	0.00082	U	0.0096	U	0.0092	U	0.00083	U	0.0012	U	0.0095	U	0.25	U	0.0014	U	0.0021	U	0.0095	U	0.0015	U	0.0015	U	0.0012	U	0.0016	U	0.013	U	0.091	U	0.078	U
1,1,2-Trichloroethane	0.00064	U	0.011	U	0.01	U	0.00065	U	0.00094	U	0.011	U	0.28	U	0.0011	U	0.0016	U	0.011	U	0.0012	U	0.0012	U	0.00091	U	0.0012	U	0.015	U	0.1	U	0.088	U
1,1-Dichloroethane	0.00027	U	0.011	U	0.011	U	0.00027	U	0.0004	U	0.011	U	0.29	U	0.00045	U	0.00068	U	0.011	U	0.00051	U	0.00049	U	0.00039	U	0.00052	U	0.015	U	0.11	U	0.09	U
1,1-Dichloroethene	0.0004	U	0.016	U	0.015	U	0.0004	U	0.00058	U	0.015	U	0.41	U	0.00066	U	0.001	U	0.016	U	0.00075	U	0.00072	U	0.00057	U	0.00077	U	0.021	U	0.15	U	0.13	U
1,2-Dichloroethane	0.00042	U	0.027	U	0.026	U	0.00043	U	0.00062	U	0.027	U	0.72	U	0.00069	U	0.0011	U	0.027	U	0.00079	U	0.00076	U	0.0006	U	0.00081	U	0.037	U	0.26	U	0.22	U
1,2-Dichloropropane	0.00034	U	0.0097	U	0.0093	U	0.00035	U	0.0005	U	0.0096	U	0.25	U	0.00057	U	0.00086	U	0.0097	U	0.00064	U	0.00062	U	0.00049	U	0.00066	U	0.013	U	0.093	U	0.079	U
2-Butanone	0.0086	J	0.091	U	0.087	U	0.00062	U	0.0009	U	0.09	U	2.4	U	0.0052	J	0.0087	J	0.091	U	0.0012	U	0.0029	J	0.0035	J	0.0012	U	0.12	U	0.87	U	0.74	U
2-Hexanone	0.0018	U	0.061	U	0.058	U	0.0018	U	0.0026	U	0.06	U	1.6	U	0.003	U	0.0045	U	0.06	U	0.0034	U	0.0033	U	0.0026	U	0.0035	U	0.082	U	0.58	U	0.49	U
4-Methyl-2-pentanone	0.00077	U	0.076	U	0.073	U	0.00078	U	0.0011	U	0.075	U	2	U	0.0013	U	0.0019	U	0.075	U	0.0014	U	0.0014	U	0.0011	U	0.0015	U	0.1	U	0.72	U	0.62	U
Acetone	0.049		0.28	U	0.26	U	0.0066	J	0.016		0.27	U	7.2	U	0.035		0.058		0.27	U	0.041		0.025		0.033		0.012	J	0.37	U	2.6	U	2.2	U
Benzene	0.0011		0.13		0.063	J	0.00081	U	0.0024		0.25		6.2		0.094		0.23		0.96		0.023		0.016		0.0011	U	0.0015	U	0.94		54		63	
Bromodichloromethane	0.00033	U	0.01	U	0.0095	U	0.00033	U	0.00048	U	0.0099	U	0.26	U	0.00054	U	0.00082	U	0.0099	U	0.00061	U	0.00059	U	0.00047	U	0.00063	U	0.013	U	0.095	U	0.081	U
Bromoform	0.00075	U	0.011	U	0.011	U	0.00076	U	0.0011	U	0.011	U	0.29	U	0.0012	U	0.0019	U	0.011	U	0.0014	U	0.0014	U	0.0011	U	0.0015	U	0.015	U	0.11	U	0.089	U
Bromomethane	0.00044	U	0.035	U	0.033	U	0.00045	U	0.00065	U	0.035	U	0.91	U	0.00073	U	0.0011	U	0.035	U	0.00083	U	0.0008	U	0.00063	U	0.00085	U	0.047	U	0.33	U	0.28	U
Carbon disulfide	0.0005	U	0.016	U	0.016	U	0.00051	U	0.00073	U	0.016	U	0.42	U	0.00083	U	0.0059		0.016	U	0.00094	U	0.00091	U	0.00072	U	0.00096	U	0.022	U	0.15	U	0.13	U
Carbon tetrachloride	0.00011	U	0.02	U	0.019	U	0.00011	U	0.00016	U	0.02	U	0.52	U	0.00018	U	0.00027	U	0.02	U	0.0002	U	0.0002	U	0.00016	U	0.00021	U	0.027	U	0.19	U	0.16	U
Chlorobenzene	0.0012		16		1.3		0.0039		0.025		5.5		630		0.13		0.41		15		0.08		0.039		0.00074	U	0.001	U	16		270		310	
Chloroethane	0.00043	U	0.05	U	0.047	U	0.00044	U	0.00063	U	0.049	U	1.3	U	0.00071	U	0.0011	U	0.049	U	0.00081	U	0.00078	U	0.00061	U	0.00083	U	0.067	U	0.47	U	0.4	U
Chloroform	0.00026	U	0.017	U	0.016	U	0.00026	U	0.00037	U	0.017	U	0.45	U	0.00042	U	0.00064	U	0.017	U	0.00048	U	0.00046	U	0.00037	U	0.00049	U	0.023	U	0.16	U	0.14	U
Chloromethane	0.00068	U	0.023	U	0.022	U	0.00069	U	0.001	U	0.023	U	0.61	U	0.0011	U	0.0017	U	0.023	U	0.0013	U	0.0012	U	0.00098	U	0.0013	U	0.031	U	0.22	U	0.19	U
cis-1,2-Dichloroethene	0.00025	U	0.022	U	0.021	U	0.00026	U	0.00037	U	0.021	U	0.56	U	0.00042	U	0.00064	U	0.021	U	0.00048	U	0.00046	U	0.00036	U	0.00049	U	0.029	U	0.21	U	0.17	U
cis-1,3-Dichloropropene	0.00022	U	0.011	U	0.011	U	0.00022	U	0.00032	U	0.011	U	0.3	U	0.00036	U	0.00054	U	0.011	U	0.00041	U	0.00039	U	0.00031	U	0.00042	U	0.015	U	0.11	U	0.092	U
Dibromochloromethane	0.0006	U	0.011	U	0.011	U	0.00061	U	0.00088	U	0.011	U	0.29	U	0.001	U	0.0015	U	0.011	U	0.0011	U	0.0011	U	0.00086	U	0.0012	U	0.015	U	0.11	U	0.091	U
Ethylbenzene	0.00021	U	0.027	U	0.026	U	0.00021	U	0.0003	U	0.027	U	0.72	U	0.00088	J	0.004		0.027	U	0.00054	J	0.00037	U	0.00029	U	0.0004	U	0.098	J	9.4		9.7	
Methylene Chloride	0.00051	U	0.021	U	0.02	U	0.00051	U	0.00074	U	0.021	U	0.56	U	0.00084	U	0.0013	U	0.021	U	0.00095	U	0.00092	U	0.00073	U	0.00098	U	0.029	U	0.2	U	0.17	U
Styrene	0.00037	U	0.015	U	0.015	U	0.00038	U	0.00055	U	0.015	U	0.4	U	0.00061	U	0.00093	U	0.015	U	0.0007	U	0.00068	U	0.00053	U	0.00072	U	0.021	U	4		3.6	
Tetrachloroethene	0.00036	U	0.022	U	0.021	U	0.00036	U	0.00052	U	0.022	U	0.57	U	0.00059	U	0.00089	U	0.022	U	0.00067	U	0.00064	U	0.00051	U	0.00068	U	0.029	U	4.1		3.9	
Toluene	0.00032	U	0.011	U	0.024	J	0.00033	U	0.00047	U	0.01	U	0.27	U	0.0041		0.01		0.053	J	0.0026		0.0013	J	0.00046	U	0.00062	U	0.067	J	15		14	
trans-1,2-Dichloroethene	0.0003	U	0.015	U	0.015	U	0.00031	U	0.00045	U	0.015	U	0.4	U	0.0005	U	0.00076	U	0.015	U	0.00057	U	0.00055	U	0.00044	U	0.00059	U	0.021	U	0.15	U	0.12	U
trans-1,3-Dichloropropene	0.00024	U	0.014	U	0.013	U	0.00024	U	0.00035	U	0.013	U	0.35	U	0.00039	U	0.0006	U	0.014	U	0.00045	U	0.00043	U	0.00034	U	0.00046	U	0.018	U	0.13	U	0.11	U
Trichloroethene	0.00039	U	0.02	U	0.019	U	0.0004	U	0.00057	U	0.02	U	0.52	U	0.00065	U	0.00098	U	0.02	U	0.00073	U	0.00071	U	0.00056	U	0.00075	U	0.027	U	0.19	U	0.16	U
Vinyl chloride	0.00025	U	0.013	U	0.013	U	0.00026	U	0.00037	U	0.013	U	0.35	U	0.00042	U	0.00063	U	0.013	U	0.00047	U	0.00046	U	0.00036	U	0.00049	U	0.018	U	0.13	U	0.11	U
Xylenes, Total	0.00085	U	0.048	U	0.046	U	0.00086	U	0.0012	U	0.048	U	1.3	U	0.0039	J	0.016		0.048	U	0.0024	J	0.0015	U	0.0012	U	0.0016	U	0.5		110		100	
Metals																																		
Chromium ⁽²⁾	40		2000		730		15		14		16		58		26000		33000		1700		35000		37000		790		20000		1900		13000		16000	
Chromium, hexavalent	1.8	U																																

TABLE 4-9
ANALYTICAL RESULTS
SEPTIC TANK SOILS
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	ST-7-S 12/8/2011		ST-7-W 12/8/2011		ST-8-E 12/8/2011		ST-8-N 12/8/2011		ST-8-S 12/8/2011		ST-8-W 12/8/2011	
Volatile Organics												
1,1,1-Trichloroethane	0.055	U	0.054	U	0.00037	U	0.00025	U	0.00033	U	0.03	U
1,1,2,2-Tetrachloroethane	0.019	U	0.019	U	0.0015	U	0.001	U	0.0013	U	0.01	U
1,1,2-Trichloroethane	0.022	U	0.021	U	0.0012	U	0.0008	U	0.0011	U	0.012	U
1,1-Dichloroethane	0.022	U	0.022	U	0.00049	U	0.00034	U	0.00045	U	0.012	U
1,1-Dichloroethene	0.031	U	0.031	U	0.00072	U	0.0005	U	0.00065	U	0.017	U
1,2-Dichloroethane	0.055	U	0.054	U	0.00076	U	0.00053	U	0.00069	U	0.029	U
1,2-Dichloropropane	0.019	U	0.019	U	0.00062	U	0.00043	U	0.00056	U	0.01	U
2-Butanone	0.18	U	0.18	U	0.0011	U	0.00077	U	0.001	U	0.098	U
2-Hexanone	0.12	U	0.12	U	0.0033	U	0.0023	U	0.003	U	0.065	U
4-Methyl-2-pentanone	0.15	U	0.15	U	0.0014	U	0.00097	U	0.0013	U	0.082	U
Acetone	0.55	U	0.55	U	0.011	J	0.005	U	0.0066	U	0.3	U
Benzene	0.14	J	12		0.0014	U	0.0026		0.0043		0.014	U
Bromodichloromethane	0.02	U	0.02	U	0.0006	U	0.00041	U	0.00054	U	0.011	U
Bromoform	0.022	U	0.022	U	0.0014	U	0.00095	U	0.0012	U	0.012	U
Bromomethane	0.07	U	0.069	U	0.0008	U	0.00055	U	0.00072	U	0.038	U
Carbon disulfide	0.032	U	0.032	U	0.00091	U	0.00063	U	0.004		0.017	U
Carbon tetrachloride	0.04	U	0.04	U	0.0002	U	0.00014	U	0.00018	U	0.022	U
Chlorobenzene	1.5		3.3		0.0072		0.043		0.011		0.15	
Chloroethane	0.099	U	0.098	U	0.00078	U	0.00054	U	0.00071	U	0.053	U
Chloroform	0.034	U	0.034	U	0.00046	U	0.00032	U	0.00042	U	0.019	U
Chloromethane	0.047	U	0.046	U	0.0012	U	0.00086	U	0.0011	U	0.025	U
cis-1,2-Dichloroethene	0.043	U	0.043	U	0.00046	U	0.00058	J	0.0021		0.023	U
cis-1,3-Dichloropropene	0.023	U	0.022	U	0.00039	U	0.00027	U	0.00036	U	0.012	U
Dibromochloromethane	0.022	U	0.022	U	0.0011	U	0.00076	U	0.00099	U	0.012	U
Ethylbenzene	0.055	U	0.13	J	0.00037	U	0.00073	J	0.0019		0.03	U
Methylene Chloride	0.043	U	0.042	U	0.0015	J	0.00064	U	0.00083	U	0.023	U
Styrene	0.031	U	0.031	U	0.00068	U	0.00047	U	0.00061	U	0.017	U
Tetrachloroethene	0.043	U	0.043	U	0.00065	U	0.00045	U	0.00058	U	0.023	U
Toluene	0.039	J	0.58		0.00059	U	0.00045	J	0.003		0.011	U
trans-1,2-Dichloroethene	0.031	U	0.03	U	0.00055	U	0.00038	U	0.00056	J	0.017	U
trans-1,3-Dichloropropene	0.027	U	0.027	U	0.00043	U	0.0003	U	0.00039	U	0.015	U
Trichloroethene	0.039	U	0.039	U	0.00071	U	0.00049	U	0.00064	U	0.021	U
Vinyl chloride	0.027	U	0.026	U	0.00046	U	0.00032	U	0.00096	J	0.014	U
Xylenes, Total	0.49	J	1.1		0.0015	U	0.0019	J	0.0062		0.052	U
Metals												
Chromium ⁽²⁾	290		30000		26000		4900		1700		11	
Chromium, hexavalent	13		11000		6900		170		1.9	U	2.2	J

- Notes:
- Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
 - Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.

TABLE 4-10

ANALYTICAL RESULTS
GROUNDWATER SAMPLES - FILL UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-11U 04/24/08 Primary		SC-MW-12U 04/23/08 Primary		SC-MW-12U 04/23/08 Duplicate		SC-MW-14U 04/24/08 Primary		SC-MW-15U 04/23/08 Primary		SC-PZ-1U 04/23/08 Primary		SC-PZ-2U 04/23/08 Primary		SC-PZ-3U 04/23/08 Primary		SC-PZ-4U 04/25/08 Primary		SC-PZ-5U 04/24/08 Primary	
Volatile Organics																						
1,1,1-Trichloroethane	ug/L	30	32	U	0.79	U	0.79	U	40	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
1,1,2,2-Tetrachloroethane	ug/L	1	25	U	0.63	U	0.63	U	31	U	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
1,1,2-Trichloroethane	ug/L	3	32	U	0.79	U	0.79	U	40	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--	49	U	1.2	U	1.2	U	62	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,1-Dichloroethane	ug/L	50	41	U	1	U	1	U	51	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	ug/L	1	35	U	0.87	U	0.87	U	44	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U
1,2,4-Trichlorobenzene	ug/L	9	5000		0.42	U	1.2	J	230	J	0.42	U	0.42	U	0.89	J	0.42	U	4.1	J	11	
1,2-Dibromoethane	ug/L	0.03	26	U	0.64	U	0.64	U	32	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
1,2-Dichlorobenzene	ug/L	600	5200		4	J	11		7200		0.84	J	0.65	U	10		4.5	J	4.2	J	3.4	J
1,2-Dichloroethane	ug/L	2	26	U	0.64	U	0.64	U	32	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
1,2-Dichloropropane	ug/L	1	27	U	0.67	U	0.67	U	33	U	0.67	U	0.67	U	0.67	U	0.67	U	0.67	U	0.67	U
1,3-Dichlorobenzene	ug/L	600	1100		10		18		5600		2.6	J	0.66	U	3.4	J	0.66	U	2.6	J	0.66	U
1,4-Dichlorobenzene	ug/L	75	1800		35		55		9000		4.4	J	0.6	U	3.2	J	1	J	4.4	J	3.5	J
2-Butanone	ug/L	300	29	U	0.73	U	0.73	U	37	U	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U	15	
2-Hexanone ⁽²⁾	ug/L	300	18	U	0.45	U	0.45	U	22	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
4-Methyl-2-pentanone	ug/L	--	19	U	0.46	U	0.46	U	23	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
Acetone	ug/L	6,000	200	U	5	U	5	U	250	U	5	U	5	U	17	J	5	U	5	U	63	
Benzene	ug/L	1	36	J	0.81	U	0.91	J	41	U	85		0.81	U	1.5	J	10		0.81	U	15	
Bromodichloromethane	ug/L	1	23	U	0.58	U	0.58	U	29	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Bromoform	ug/L	4	15	U	0.37	U	0.37	U	18	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
Bromomethane	ug/L	10	30	U	0.75	U	0.75	U	37	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Carbon disulfide	ug/L	700	43	U	1.1	U	1.1	U	54	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Carbon tetrachloride	ug/L	1	37	U	0.91	U	0.91	U	46	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U
Chlorobenzene	ug/L	50	450		37		53		490		320		0.71	U	10		2.4	J	17		25	
Chloroethane ⁽²⁾	ug/L	5	44	U	1.1	U	1.1	U	55	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Chloroform	ug/L	70	31	U	0.78	U	0.78	U	39	U	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U
Chloromethane	ug/L	--	35	U	0.87	U	0.87	U	44	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U
cis-1,2-Dichloroethene	ug/L	70	46	J	1	U	1	U	50	U	1	U	1	U	1	U	2.4	J	1	U	1	U
cis-1,3-Dichloropropene	ug/L	1	32	U	0.79	U	0.79	U	40	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
Cyclohexane	ug/L	--	43	U	1.1	U	1.1	U	54	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Dibromochloropropane	ug/L	0.02	50	U	1.3	U	1.3	U	63	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Dibromochloromethane	ug/L	1	20	U	0.5	U	0.5	U	25	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	ug/L	1000	42	U	1	U	1	U	200	J	1	U	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	ug/L	700	23	U	0.58	U	1.1	J	29	U	0.58	U	0.58	U	0.58	U	10		0.58	U	0.58	U
Isopropylbenzene	ug/L	700	29	U	0.72	U	0.72	U	36	U	0.72	U	0.72	U	0.72	U	3.1	J	0.72	U	0.72	U
Methyl Acetate	ug/L	7000	19	U	0.47	U	0.47	U	23	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U
Methylcyclohexane	ug/L	--	44	U	1.1	U	1.1	U	55	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Methylene chloride	ug/L	3	30	U	0.75	U	0.75	U	46	J	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Methyltert-butylether	ug/L	70	31	U	0.77	U	0.77	U	38	U	0.77	U	0.77	U	0.77	U	0.77	U	0.77	U	0.77	U
Styrene	ug/L	100	32	U	0.8	U	0.8	U	40	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Tetrachloroethylene	ug/L	1	42	J	0.57	U	0.57	U	28	U	0.57	U	0.57	U	0.57	U	0.57	U	0.67	J	0.57	U
Toluene	ug/L	600	32	U	0.8	U	0.94	J	40	U	0.8	U	0.8	U	0.8	U	2.9	JB	0.8	U	1.6	J
trans-1,2-Dichloroethene	ug/L	100	36	U	0.9	U	0.9	U	45	U	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
trans-1,3-Dichloropropene	ug/L	1	23	U	0.57	U	0.57	U	28	U	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U
Trichloroethylene	ug/L	1	35	U	0.88	U	0.88	U	44	U	0.88	U	0.88	U	0.88	U	0.88	U	0.88	U	0.88	U
Trichlorofluoromethane	ug/L	2000	32	U	0.8	U	0.8	U	40	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Vinyl chloride	ug/L	1	38	U	0.94	U	0.94	U	47	U	0.94	U	0.94	U	0.94	U	0.94	U	0.94	U	0.94	U
Xylene (total)	ug/L	1000	98	U	2.4	U	2.9	J	120	U	2.4	U	2.4	U	2.4	U	39		2.4	U	2.4	U

TABLE 4-10

ANALYTICAL RESULTS
GROUNDWATER SAMPLES - FILL UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-11U 04/24/08 Primary		SC-MW-12U 04/23/08 Primary		SC-MW-12U 04/23/08 Duplicate		SC-MW-14U 04/24/08 Primary		SC-MW-15U 04/23/08 Primary		SC-PZ-1U 04/23/08 Primary		SC-PZ-2U 04/23/08 Primary		SC-PZ-3U 04/23/08 Primary		SC-PZ-4U 04/25/08 Primary		SC-PZ-5U 04/24/08 Primary	
Semivolatile Organics																						
1,1'-Biphenyl	ug/L	400	33		1.2	J	5.6	J	3.2	J	0.63	U	0.75	U	0.64	U	28		0.69	U	0.73	U
1,2,4-Trichlorobenzene	ug/L	9	NA		NA		NA		NA		NA		NA		NA		3.1		NA		NA	
1,4-Dichlorobenzene	ug/L	75	NA		NA		NA		NA		NA		NA		NA		2.4		NA		NA	
2,2'-oxybis(1-chloropropane)	ug/L	--	0.29	U	0.3	U	0.28	U	0.29	U	0.27	U	0.32	U	0.27	U	0.28	U	0.3	U	0.32	U
2,4,5-Trichlorophenol	ug/L	700	37		0.71	U	0.68	U	0.69	U	0.66	U	0.78	U	0.66	U	0.68	U	0.72	U	0.76	U
2,4,6-Trichlorophenol	ug/L	20	11		0.65	U	0.62	U	0.63	U	0.6	U	0.71	U	0.6	U	0.62	U	0.65	U	0.69	U
2,4-Dichlorophenol	ug/L	20	46		1.4	J	1.1	J	0.54	U	0.51	U	0.61	U	0.51	U	0.53	U	0.56	U	0.59	U
2,4-Dimethylphenol	ug/L	100	99		12		29		7.8	J	6.9	J	0.65	U	3.3	J	12		9.8	J	13	
2,4-Dinitrophenol	ug/L	40	14	U	15	U	14	U	14	U	13	U	16	U	14	U	14	U	15	U	16	U
2,4-Dinitrotoluene	ug/L	10	0.5	U	0.51	U	0.49	U	0.5	U	0.47	U	0.56	U	0.48	U	0.49	U	0.52	U	0.55	U
2,6-Dinitrotoluene	ug/L	10	0.56	U	0.58	U	0.55	U	0.56	U	0.53	U	0.64	U	0.54	U	0.55	U	0.58	U	0.62	U
2-Chloronaphthalene	ug/L	600	0.49	U	0.5	U	0.48	U	0.49	U	0.46	U	0.55	U	0.47	U	0.48	U	0.51	U	0.54	U
2-Chlorophenol	ug/L	40	0.5	U	0.52	U	0.49	U	0.5	U	0.48	U	0.57	U	0.48	U	0.49	U	0.52	U	0.55	U
2-Methylnaphthalene ⁽²⁾	ug/L	30	260		0.69	J	14		3.6	J	0.49	U	0.59	U	1.2	J	590		1.4	J	4.3	J
2-Methylphenol	ug/L	--	49		3.5	J	14		3.5	J	7.6	J	0.64	U	1.1	J	7.4	J	11	J	110	
2-Nitroaniline	ug/L	--	0.52	U	0.54	U	0.52	U	0.53	U	0.5	U	0.59	U	0.5	U	0.52	U	0.55	U	0.58	U
2-Nitrophenol	ug/L	--	0.59	U	0.62	U	0.59	U	0.6	U	0.57	U	0.68	U	0.57	U	0.59	U	0.62	U	3.4	J
3,3-Dichlorobenzidine	ug/L	30	0.45	U	0.47	U	0.45	U	0.45	U	0.43	U	0.51	U	0.43	U	0.45	U	0.47	U	0.5	U
3-Nitroaniline	ug/L	--	0.44	U	0.46	U	0.44	U	0.45	U	0.42	U	0.5	U	0.43	U	0.44	U	0.46	U	0.49	U
4,6-Dinitro-2-methylphenol ⁽²⁾	ug/L	1	16	U	16	U	15	U	16	U	15	U	18	U	15	U	15	U	16	U	17	U
4-Bromophenylphenyl ether	ug/L	--	0.55	U	0.56	U	0.54	U	0.55	U	0.52	U	0.62	U	0.53	U	0.54	U	0.57	U	0.6	U
4-Chloroaniline	ug/L	30	0.51	U	0.53	U	0.5	U	0.51	U	0.49	U	0.58	U	0.49	U	0.5	U	0.53	U	0.56	U
4-Chlorophenyl phenyl ether	ug/L	--	0.47	U	0.49	U	0.46	U	0.47	U	0.45	U	0.53	U	0.45	U	0.46	U	0.49	U	0.52	U
4-Chloro-3-methylphenol ⁽²⁾	ug/L	100	0.65	U	0.67	U	0.64	U	0.66	U	0.62	U	0.74	U	0.63	U	0.64	U	0.68	U	0.72	U
4-Methylphenol	ug/L	--	140		16		63		8.9	J	31		0.92	U	3.3	J	18		23		810	
4-Nitroaniline	ug/L	--	0.28	U	0.29	U	0.28	U	0.28	U	0.27	U	0.32	U	0.27	U	0.28	U	0.29	U	0.31	U
4-Nitrophenol	ug/L	--	0.77	U	0.8	U	0.76	U	0.78	U	0.74	U	0.88	U	0.74	U	0.76	U	0.81	U	0.86	U
Acenaphthene	ug/L	400	30		3.4	J	13		97		6.1	J	0.65	U	1.2	J	61		5.6	J	0.64	U
Acenaphthylene ⁽²⁾	ug/L	100	0.51	U	0.59	J	0.5	U	1.6	J	0.49	U	0.58	U	0.49	U	0.5	U	0.85	J	0.56	U
Acetophenone	ug/L	700	2.4	J	0.53	U	0.58	J	0.51	U	0.49	U	0.58	U	0.49	U	0.5	U	0.53	U	1.6	J
Anthracene	ug/L	2000	20		0.66	J	1.2	J	1.3	J	0.53	U	0.63	U	0.54	U	1.4	J	1	J	0.62	U
Atrazine	ug/L	3	0.43	U	0.44	U	0.42	U	0.43	U	0.41	U	0.49	U	0.41	U	0.42	U	0.45	U	0.48	U
Benzaldehyde	ug/L	--	0.6	U	0.62	U	0.59	U	0.6	U	0.57	U	0.68	U	0.57	U	0.59	U	0.62	U	3.4	J
Benzo(a)anthracene	ug/L	0.1	1.6	J	0.47	U	0.45	U	0.46	U	0.43	U	0.51	U	0.44	U	0.45	U	2.3	J	0.5	U
Benzo(a)pyrene	ug/L	0.1	0.72	J	0.5	U	0.48	U	0.49	U	0.46	U	0.55	U	0.46	U	0.48	U	2.2	J	0.53	U
Benzo(b)fluoranthene	ug/L	0.2	1.1	J	0.36	U	0.34	U	0.35	U	0.33	U	0.39	U	0.33	U	0.34	U	3.8	J	0.38	U
Benzo(ghi)perylene ⁽²⁾	ug/L	100	0.3	U	0.31	U	0.3	U	0.3	U	0.29	U	0.34	U	0.29	U	0.3	U	1.9	J	0.34	U
Benzo(k)fluoranthene	ug/L	0.5	0.53	J	0.45	U	0.43	U	0.44	U	0.41	U	0.49	U	0.42	U	0.43	U	0.45	U	0.48	U
Bis(2-chloroethoxy)methane	ug/L	--	1.3	U	1.4	U	1.3	U	1.4	U	1.3	U	1.5	U	1.3	U	1.3	U	1.4	U	1.5	U
Bis(2-chloroethyl)ether	ug/L	7	0.51	U	0.52	U	0.5	U	0.51	U	0.48	U	0.58	U	0.49	U	0.5	U	0.53	U	0.56	U
Bis(2-ethylhexyl)phthalate	ug/L	3	1.4	J	1.5	J	2.6	J	1.7	J	1.3	U	1.5	J	2.6	J	1.8	J	1.4	U	2.1	J
Butyl benzyl phthalate	ug/L	100	1.5	U	1.6	U	1.5	U	1.5	J	1.4	U	1.7	U	1.5	U	1.5	U	1.6	U	1.7	U
Caprolactam ⁽²⁾	ug/L	5000	2.1	U	3.8	J	6.3	J	2.1	U	2	U	3.2	J	5	J	3.6	J	2.2	U	2.3	U
Carbazole	ug/L	--	5.7	J	0.6	U	2.6	J	2.1	J	0.55	U	0.65	U	0.55	U	2.4	J	0.6	U	0.64	U
Chrysene	ug/L	5	1.2	J	0.41	U	0.39	U	0.5	J	0.37	U	0.44	U	0.38	U	0.39	U	2.1	J	0.43	U
Dibenzo(a,h)anthracene	ug/L	0.3	0.38	U	0.4	U	0.38	U	0.39	U	0.37	U	0.44	U	0.37	U	0.38	U	0.4	U	0.43	U
Dibenzofuran	ug/L	--	51		3	J	11		46		0.56	U	0.67	U	0.57	U	20		0.61	U	0.65	U
Diethyl phthalate	ug/L	6000	2.7	U	2.8	U	2.7	U	2.7	U	2.6	U	3	U	2.6	U	2.7	U	2.8	U	3	U

TABLE 4-10
ANALYTICAL RESULTS
GROUNDWATER SAMPLES - FILL UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-11U 04/24/08 Primary		SC-MW-12U 04/23/08 Primary		SC-MW-12U 04/23/08 Duplicate		SC-MW-14U 04/24/08 Primary		SC-MW-15U 04/23/08 Primary		SC-PZ-1U 04/23/08 Primary		SC-PZ-2U 04/23/08 Primary		SC-PZ-3U 04/23/08 Primary		SC-PZ-4U 04/25/08 Primary		SC-PZ-5U 04/24/08 Primary	
Semivolatile Organics (Continued)																						
Dimethyl phthalate ⁽²⁾	ug/L	100	0.46	U	0.48	U	0.46	U	0.47	U	0.44	U	0.53	U	0.45	U	0.46	U	0.49	U	0.52	U
Di-n-butyl phthalate	ug/L	700	0.51	U	0.53	U	0.51	U	0.51	U	0.49	U	0.58	U	0.49	U	0.51	U	0.53	U	0.57	U
Di-n-octyl phthalate	ug/L	100	0.47	U	0.49	U	0.46	U	0.47	U	0.45	U	0.53	U	0.45	U	0.46	U	0.49	U	0.52	U
Fluoranthene	ug/L	300	6.8	J	1.1	J	1.6	J	2	J	0.71	J	0.62	U	0.52	U	0.54	U	3.8	J	0.6	U
Fluorene	ug/L	300	31		2.1	J	6.9	J	23		3.9	J	0.68	U	0.57	U	10	J	0.62	U	0.66	U
Hexachlorobenzene	ug/L	0.02	0.48	U	0.5	U	0.47	U	0.48	U	0.46	U	0.54	U	0.46	U	0.47	U	0.5	U	0.53	U
Hexachlorobutadiene	ug/L	1	0.41	U	0.43	U	0.41	U	0.42	U	0.39	U	0.47	U	0.4	U	0.41	U	0.43	U	0.46	U
Hexachlorocyclopentadiene	ug/L	40	0.88	U	0.91	U	0.87	U	0.89	U	0.84	U	1	U	0.85	U	0.87	U	0.92	U	0.98	U
Hexachloroethane	ug/L	7	0.48	U	0.5	U	0.47	U	0.48	U	0.46	U	0.54	U	0.46	U	0.47	U	0.5	U	0.53	U
Indeno(1,2,3-cd)pyrene	ug/L	0.2	0.52	U	0.54	U	0.52	U	0.53	U	0.5	U	0.59	U	0.5	U	0.52	U	1.7	J	0.58	U
Isophorone	ug/L	40	0.52	U	0.54	U	0.52	U	0.53	U	0.5	U	0.59	U	0.5	U	0.52	U	0.54	U	0.58	U
Naphthalene	ug/L	300	14000		6.2	J	310		740		0.45	U	0.54	U	2.1	J	5000		21		50	
Nitrobenzene	ug/L	6	0.7	U	0.73	U	0.7	U	0.71	U	0.67	U	0.8	U	0.68	U	0.7	U	0.74	U	0.78	U
N-Nitrosodiphenylamine	ug/L	10	0.54	U	0.56	U	0.53	U	0.54	U	0.51	U	0.61	U	0.52	U	0.53	U	0.56	U	0.6	U
N-Nitrosodipropylamine	ug/L	10	0.65	U	0.68	U	0.65	U	0.66	U	0.62	U	0.74	U	0.63	U	0.65	U	0.68	U	0.73	U
Pentachlorophenol	ug/L	0.3	10	J	0.95	U	0.9	U	0.92	U	0.87	U	1	U	0.88	U	0.9	U	0.95	U	1	U
Phenanthrene ⁽²⁾	ug/L	100	39		1	J	6.2	J	11		0.81	J	0.69	U	1.1	J	5.2	J	1.4	J	0.67	U
Phenol	ug/L	2000	49		5.1	J	36		5.1	J	39		0.28	U	6.9	J	5.8	J	29		870	
Pyrene	ug/L	200	3.6	J	0.77	J	1.2	J	1.2	J	0.59	U	0.71	U	0.6	U	0.62	U	2.9	J	0.69	U
Metals																						
Aluminum	ug/L	200	1130		40.3	B	27	B	191	B	55	B	1160		1750		136	B	2910	J	189	B
Antimony	ug/L	6	34		2.9	U	2.9	U	2.9	U	4.4	B	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
Arsenic	ug/L	3	9.5	B	2.2	U	2.2	U	2.2	U	2.2	U	3	B	2.2	U	16		2.2	U	2.2	U
Barium	ug/L	6000	524	J	19.2	BJ	17.1	B	28	B	352	J	280	J	149	BJ	50.7	BJ	12.3	B	1080	J
Beryllium	ug/L	1	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Cadmium	ug/L	4	0.38	B	0.23	U	0.23	U	0.23	U	0.23	U	0.67	B	0.23	U	0.23	U	2	B	0.23	U
Calcium	ug/L	--	35200	J	45700	J	53000	J	85900	J	103000	J	63800	J	289000	J	10500	J	74500	J	546000	J
Chromium (Total)	ug/L	70	396		32.6		6.4		427		3.1	B	119		4690		142		3650		2090	
Chromium (Hexavalent)	ug/L	--	50	U	10	U	10	U	10	U	10	U	250	U	4070		10	U	453		1650	
Cobalt ⁽²⁾	ug/L	100	3.3	B	0.74	B	0.7	U	1.8	B	0.7	U	2.8	B	0.7	U	0.7	U	6.6	B	2.5	B
Copper	ug/L	1300	58.5		2.5	B	1.4	B	2.9	B	1.3	B	25.8		1.2	B	1.9	B	12.6	B	19.1	B
Iron	ug/L	300	4280		673		275		475		7950		46100		33.4	B	1720		6550		833	
Lead	ug/L	5	550		2.4	U	2.4	U	11.9		37.7		3.2		2.4	U	2.4	U	15.5		10	
Magnesium	ug/L	--	97600	J	30300	J	18100	J	150000	J	19900	J	15500	J	73	BJ	11000	J	17400	J	2810	B
Manganese	ug/L	50	37.7		35		23.1		119		514		701		0.32	U	24.2		71		10.4	B
Mercury	ug/L	2	17.5		0.055	U	0.055	U	0.19	B	0.055	U	0.076	B	0.055	U	0.12	B	0.11	B	0.055	U
Nickel	ug/L	100	28	B	1.2	B	1.4	B	3.2	B	1.5	B	17.7	B	1.7	B	2.4	B	31.7	B	5.2	B
Potassium	ug/L	--	4880	B	2410	B	2100	B	6580		12900		3760	B	1140	B	14100		2210	B	944	B
Selenium	ug/L	40	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Silver	ug/L	40	0.72	B	0.59	U	0.59	U	0.96	B	0.59	U	0.59	U	0.64	B	0.59	U	0.89	B	0.59	U
Sodium	ug/L	50000	78300		36600		37600		68700		45300		113000		27000		195000		8780		82100	
Thallium	ug/L	2	3.1	U	4.8	BJ	3.1	U	3.1	U	3.1	U	3.6	BJ	3.1	U	3.1	U	3.1	U	3.1	U
Vanadium ⁽³⁾	ug/L	60	48.6	B	4.8	BJ	1	U	11.2	B	1.3	BJ	48.7	BJ	1	U	9.9	BJ	135		1	U
Zinc	ug/L	2000	32.4		1.3	U	1.3	U	5	B	1.3	U	1940		107		108		5350		2430	

TABLE 4-10

ANALYTICAL RESULTS
GROUNDWATER SAMPLES - FILL UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-11U 04/24/08 Primary		SC-MW-12U 04/23/08 Primary		SC-MW-12U 04/23/08 Duplicate		SC-MW-14U 04/24/08 Primary		SC-MW-15U 04/23/08 Primary		SC-PZ-1U 04/23/08 Primary		SC-PZ-2U 04/23/08 Primary		SC-PZ-3U 04/23/08 Primary		SC-PZ-4U 04/25/08 Primary		SC-PZ-5U 04/24/08 Primary	
PCBs																						
Aroclor 1016	ug/L	0.5	1.3		0.11	U	0.11	U	0.1	U	0.11	U	0.12	U	0.11	U	0.11	U	0.1	U	0.1	U
Aroclor 1221	ug/L	0.5	0.1	U	0.11	U	0.11	U	0.1	U	0.11	U	0.12	U	0.11	U	0.11	U	0.1	U	0.1	U
Aroclor 1232	ug/L	0.5	0.12	U	0.13	U	0.13	U	0.12	U	0.13	U	0.14	U	0.13	U	0.13	U	0.12	U	0.12	U
Aroclor 1242	ug/L	0.5	0.077	U	0.085	U	0.083	U	0.077	U	0.08	U	0.091	U	0.082	U	0.081	U	0.077	U	0.077	U
Aroclor 1248	ug/L	0.5	0.094	U	0.1	U	0.1	U	0.095	U	0.098	U	0.11	U	0.1	U	0.099	U	0.095	U	0.094	U
Aroclor 1254	ug/L	0.5	0.094	U	0.1	U	0.1	U	0.095	U	0.099	U	0.11	U	0.1	U	0.1	U	0.095	U	0.094	U
Aroclor 1260	ug/L	0.5	0.056	U	0.062	U	0.061	U	0.056	U	0.059	U	0.066	U	0.06	U	0.059	U	0.056	U	0.056	U
Aroclor 1262	ug/L	0.5	0.085	U	0.094	U	0.092	U	0.086	U	0.089	U	0.1	U	0.091	U	0.09	U	0.086	U	0.085	U
Aroclor 1268	ug/L	0.5	0.11	U	0.12	U	0.12	U	0.11	U	0.12	U	0.13	U	0.12	U	0.12	U	0.11	U	0.11	U
Pesticides																						
4,4'-DDD	ug/L	0.1	0.008	U	0.0088	U	0.0086	U	0.008	U	0.0083	U	0.0094	U	0.0085	U	0.0084	U	0.008	U	0.0094	J
4,4'-DDE	ug/L	0.1	0.015	J	0.0077	U	0.0076	U	0.012	J	0.0073	U	0.0083	U	0.0074	U	0.0074	U	0.007	U	0.007	U
4,4'-DDT	ug/L	0.1	0.014	U	0.016	U	0.015	U	0.014	U	0.015	U	0.017	U	0.015	U	0.015	U	0.014	U	0.014	U
Aldrin	ug/L	0.04	0.011	U	0.013	U	0.038	J	0.012	U	0.012	U	0.014	U	0.012	U	0.012	U	0.012	U	0.011	U
alpha-BHC	ug/L	0.02	0.016	U	0.017	U	0.017	U	0.016	U	0.016	U	0.018	U	0.017	U	0.017	U	0.016	U	0.016	U
alpha-Chlordane	ug/L	0.5	0.012	U	0.013	U	0.013	U	0.012	U	0.012	U	0.014	U	0.012	U	0.012	U	0.012	U	0.012	U
beta-BHC	ug/L	0.04	0.015	U	0.017	U	0.016	U	0.015	U	0.016	U	0.018	U	0.016	U	0.016	U	0.015	U	0.015	U
delta-BHC	ug/L	--	0.0097	U	0.011	U	0.011	U	0.0098	U	0.01	U	0.012	U	0.01	U	0.01	U	0.0098	U	0.0097	U
Dieldrin	ug/L	0.03	0.0082	U	0.0091	U	0.009	U	0.0083	U	0.0086	U	0.0098	U	0.0088	U	0.0087	U	0.0083	U	0.0082	U
Endosulfan I	ug/L	40	0.019	J	0.0085	U	0.0083	U	0.0077	U	0.008	U	0.009	U	0.0082	U	0.0081	U	0.0077	U	0.0076	U
Endosulfan II	ug/L	40	0.016	U	0.017	U	0.017	U	0.016	U	0.016	U	0.018	U	0.017	U	0.016	U	0.016	U	0.016	U
Endosulfan sulfate	ug/L	40	0.016	U	0.018	U	0.018	U	0.017	U	0.017	U	0.019	U	0.018	U	0.017	U	0.017	U	0.016	U
Endrin	ug/L	2	0.015	J	0.0087	U	0.0085	U	0.0079	U	0.0082	U	0.0093	U	0.0084	U	0.0083	U	0.0079	U	0.0079	U
Endrin aldehyde	ug/L	--	0.012	U	0.014	U	0.013	U	0.013	U	0.013	U	0.015	U	0.013	U	0.013	U	0.013	U	0.012	U
Endrin ketone	ug/L	--	0.01	U	0.011	U	0.011	U	0.01	U	0.011	U	0.012	U	0.011	U	0.011	U	0.01	U	0.01	U
gamma-Chlordane	ug/L	0.5	0.074		0.0086	U	0.0085	U	0.0079	U	0.0082	U	0.0092	U	0.0083	U	0.0082	U	0.0079	U	0.0078	U
Heptachlor	ug/L	0.05	0.038	J	0.016	U	0.016	U	0.014	U	0.015	U	0.017	U	0.015	U	0.015	U	0.014	U	0.014	U
Heptachlor epoxide	ug/L	0.2	0.022	J	0.011	U	0.011	U	0.01	U	0.011	U	0.012	U	0.011	U	0.011	U	0.01	U	0.01	U
Lindane	ug/L	0.03	0.46		0.017	U	0.047	J	0.028	J	0.016	U	0.018	U	0.078		0.017	U	0.016	U	0.016	U
Methoxychlor	ug/L	40	0.019	U	0.021	U	0.02	U	0.019	U	0.02	U	0.022	U	0.02	U	0.02	U	0.019	U	0.019	U
Toxaphene	ug/L	2	0.42	U	0.47	U	0.46	U	0.43	U	0.44	U	0.5	U	0.45	U	0.45	U	0.43	U	0.42	U
Indicators																						
Biological Oxygen Demand (BOD)	mg/L	--	34.6		63.6		NA		19.3		16.4		7.8		5	U	21.4		5	U	21.7	
Carbon	mg/L	--	21.2	J	46.6	J	NA		31.4	J	6	J	0.48	BJ	3.9	J	9	J	2.1	J	17.5	J
Chemical Oxygen Demand (COD)	mg/L	--	86.5		156		NA		224		7.6	B	3.4	U	5.9	B	31.8		7.2	B	36.8	
Oil & Grease (HEM)	mg/L	--	0.54	U	0.51	U	NA		0.54	U	0.52	U	0.52	U	0.51	U	0.51	U	0.54	U	5.3	
Residue, filterable	mg/L	--	780		424		NA		944		413		527		684		525		91		1300	
Residue, non-filterable	mg/L	--	129		4	U	NA		9.2		19.6		163		4	U	6		58.8		64.8	
Total Alkalinity	mg/L	--	359	J	73	J	NA		595	J	437	J	447	J	742	J	365	J	86	J	1420	J

1. Specific Ground Water Quality Criteria - Class IIA - from Appendix Table 1 New Jersey Administrative Code 7:9C unless otherwise noted. Last amended July 7, 2008.
2. Interim Ground Water Quality Criteria as listed at www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm.
3. Standard reported for vanadium is for vanadium pentoxide.

Data qualifiers are as follows:

- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-11

ANALYTICAL RESULTS
GROUNDWATER SAMPLES - SAND UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-12L 04/25/08 Primary		SC-MW-13L 04/25/08 Primary		SC-MW-14L 04/24/08 Primary		SC-MW-15L 04/24/08 Primary		SC-MW-2L 04/24/08 Primary		SC-MW-3L 04/24/08 Primary		SC-MW-4L 04/24/08 Primary		SC-MW-8L 04/24/08 Primary	
Volatile Organics																		
1,1,1-Trichloroethane	ug/L	30	79	U	20	U	20	U	200	U	79	U	200	U	79	U	79	U
1,1,2,2-Tetrachloroethane	ug/L	1	63	U	16	U	16	U	160	U	63	U	160	U	63	U	63	U
1,1,2-Trichloroethane	ug/L	3	79	U	20	U	20	U	200	U	79	U	200	U	79	U	79	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--	120	U	31	U	31	U	310	U	120	U	310	U	120	U	120	U
1,1-Dichloroethane	ug/L	50	100	U	25	U	25	U	250	U	100	U	250	U	100	U	100	U
1,1-Dichloroethene	ug/L	1	87	U	22	U	22	U	220	U	87	U	220	U	87	U	87	U
1,2,4-Trichlorobenzene	ug/L	9	4200		2400		3400		440	J	840		1700		400	J	6700	
1,2-Dibromoethane	ug/L	0.03	64	U	16	U	16	U	160	U	64	U	160	U	64	U	64	U
1,2-Dichlorobenzene	ug/L	600	12000		700		5300		36000		12000		29000		9300		10000	
1,2-Dichloroethane	ug/L	2	64	U	16	U	16	U	160	U	64	U	160	U	64	U	64	U
1,2-Dichloropropane	ug/L	1	67	U	17	U	17	U	170	U	67	U	170	U	67	U	67	U
1,3-Dichlorobenzene	ug/L	600	4600		160		1900		26000		9700		20000		9000		3700	
1,4-Dichlorobenzene	ug/L	75	6200		380		2400		42000		15000		32000		13000		4900	
2-Butanone	ug/L	300	73	U	18	U	18	U	180	U	73	U	180	U	73	U	73	U
2-Hexanone ⁽²⁾	ug/L	300	45	U	11	U	11	U	110	U	45	U	110	U	45	U	45	U
4-Methyl-2-pentanone	ug/L	--	46	U	12	U	12	U	120	U	46	U	120	U	46	U	46	U
Acetone	ug/L	6,000	500	U	280	J	120	U	1200	U	500	U	1200	U	500	U	500	U
Benzene	ug/L	1	280	J	20	U	150		350	J	81	U	200	U	380	J	270	J
Bromodichloromethane	ug/L	1	58	U	15	U	15	U	150	U	58	U	150	U	58	U	58	U
Bromoform	ug/L	4	37	U	9.2	U	9.2	U	92	U	37	U	92	U	37	U	37	U
Bromomethane	ug/L	10	75	U	19	U	19	U	190	U	75	U	190	U	75	U	75	U
Carbon disulfide	ug/L	700	110	U	27	U	27	U	270	U	110	U	270	U	110	U	110	U
Carbon tetrachloride	ug/L	1	91	U	23	U	23	U	230	U	91	U	230	U	91	U	91	U
Chlorobenzene	ug/L	50	770		33	J	920		7800		730		1700		440	J	1700	
Chloroethane ⁽²⁾	ug/L	5	110	U	28	U	28	U	280	U	110	U	280	U	110	U	110	U
Chloroform	ug/L	70	78	U	19	U	19	U	190	U	78	U	190	U	78	U	78	U
Chloromethane	ug/L	--	87	U	22	U	22	U	220	U	87	U	220	U	87	U	87	U
cis-1,2-Dichloroethene	ug/L	70	100	U	25	U	34	J	250	U	100	U	250	U	100	U	100	U
cis-1,3-Dichloropropene	ug/L	1	79	U	20	U	20	U	200	U	79	U	200	U	79	U	79	U
Cyclohexane	ug/L	--	110	U	27	U	27	U	270	U	110	U	270	U	110	U	110	U
Dibromochloropropane	ug/L	0.02	130	U	31	U	31	U	310	U	130	U	310	U	130	U	130	U
Dibromochloromethane	ug/L	1	50	U	12	U	12	U	120	U	50	U	120	U	50	U	50	U
Dichlorodifluoromethane	ug/L	1000	100	U	26	U	26	U	260	U	410	J	370	J	100	U	100	U
Ethylbenzene	ug/L	700	150	J	15	U	15	U	150	U	58	U	150	U	260	J	58	U
Isopropylbenzene	ug/L	700	72	U	18	U	18	U	180	U	72	U	180	U	72	U	72	U
Methyl Acetate	ug/L	7000	47	U	12	U	12	U	120	U	47	U	120	U	47	U	47	U
Methylcyclohexane	ug/L	--	110	U	27	U	27	U	270	U	110	U	270	U	110	U	110	U
Methylene chloride	ug/L	3	75	U	19	U	19	U	190	U	75	U	190	U	75	U	150	J
Methyltert-butylether	ug/L	70	77	U	19	U	19	U	190	U	77	U	190	U	77	U	77	U
Styrene	ug/L	100	80	U	20	U	20	U	200	U	80	U	200	U	80	U	80	U
Tetrachloroethylene	ug/L	1	57	U	14	U	340		140	U	57	U	140	U	57	U	640	
Toluene	ug/L	600	820		20	U	20	U	200	U	80	U	200	U	80	U	80	U
trans-1,2-Dichloroethene	ug/L	100	90	U	23	U	23	U	230	U	90	U	230	U	90	U	90	U
trans-1,3-Dichloropropene	ug/L	1	57	U	14	U	14	U	140	U	57	U	140	U	57	U	57	U
Trichloroethylene	ug/L	1	88	U	22	U	1100		220	U	88	U	220	U	88	U	1900	
Trichlorofluoromethane	ug/L	2000	80	U	20	U	20	U	200	U	80	U	200	U	80	U	80	U
Vinyl chloride	ug/L	1	94	U	24	U	30	J	240	U	94	U	240	U	94	U	94	U
Xylene (total)	ug/L	1000	810	J	61	U	61	U	610	U	240	U	610	U	240	U	240	U

TABLE 4-11
ANALYTICAL RESULTS
GROUNDWATER SAMPLES - SAND UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-12L 04/25/08 Primary		SC-MW-13L 04/25/08 Primary		SC-MW-14L 04/24/08 Primary		SC-MW-15L 04/24/08 Primary		SC-MW-2L 04/24/08 Primary		SC-MW-3L 04/24/08 Primary		SC-MW-4L 04/24/08 Primary		SC-MW-8L 04/24/08 Primary	
Semivolatile Organics																		
1,1'-Biphenyl	ug/L	400	0.66	U	140		59		0.63	U	0.63	U	0.87	J	4.6	J	21	
1,2,4-Trichlorobenzene	ug/L	9	NA		NA		NA		NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	ug/L	75	NA		NA		NA		NA		NA		NA		NA		NA	
2,2'-oxybis(1-chloropropane)	ug/L	--	0.28	U	1.4	U	0.28	U	0.27	U	0.27	U	0.28	U	0.29	U	0.3	U
2,4,5-Trichlorophenol	ug/L	700	0.68	U	3.4	U	0.68	U	0.66	U	0.66	U	0.68	U	0.7	U	73	
2,4,6-Trichlorophenol	ug/L	20	0.62	U	170		0.61	U	0.6	U	0.6	U	1.2	J	0.64	U	120	
2,4-Dichlorophenol	ug/L	20	0.53	U	2.6	U	0.52	U	48		360		1000		170		450	
2,4-Dimethylphenol	ug/L	100	2500		3100	J	28000		3.9	J	6.7	J	4.2	J	680		660	
2,4-Dinitrophenol	ug/L	40	14	U	70	U	14	U	13	U	13	U	14	U	14	U	15	U
2,4-Dinitrotoluene	ug/L	10	0.49	U	2.5	U	0.49	U	0.47	U	0.47	U	0.49	U	0.51	U	0.51	U
2,6-Dinitrotoluene	ug/L	10	0.55	U	2.8	U	0.55	U	0.53	U	0.53	U	0.55	U	0.57	U	0.58	U
2-Chloronaphthalene	ug/L	600	0.48	U	2.4	U	0.48	U	0.46	U	0.46	U	8.5	J	0.5	U	0.5	U
2-Chlorophenol	ug/L	40	26		2.5	U	0.49	U	0.48	U	18		35		5.1	J	75	
2-Methylnaphthalene ⁽²⁾	ug/L	30	150	J	790		700	J	0.89	J	0.73	J	2	J	32		290	
2-Methylphenol	ug/L	--	2100		4000	J	20000		1.4	J	3	J	1.8	J	160		190	
2-Nitroaniline	ug/L	--	0.52	U	2.6	U	0.51	U	0.5	U	0.5	U	0.52	U	0.53	U	0.54	U
2-Nitrophenol	ug/L	--	0.59	U	2.9	U	0.58	U	0.57	U	0.57	U	0.59	U	0.61	U	0.62	U
3,3-Dichlorobenzidine	ug/L	30	0.45	U	2.2	U	0.44	U	0.43	U	0.43	U	0.45	U	0.46	U	0.47	U
3-Nitroaniline	ug/L	--	0.44	U	2.2	U	0.43	U	0.42	U	0.42	U	0.44	U	0.45	U	0.46	U
4,6-Dinitro-2-methylphenol ⁽²⁾	ug/L	1	15	U	77	U	15	U	15	U	15	U	15	U	16	U	16	U
4-Bromophenylphenyl ether	ug/L	--	0.54	U	2.7	U	0.54	U	0.52	U	0.52	U	0.54	U	0.56	U	0.56	U
4-Chloroaniline	ug/L	30	0.5	U	2.5	U	0.5	U	0.49	U	0.49	U	0.5	U	0.52	U	0.53	U
4-Chlorophenyl phenyl ether	ug/L	--	0.46	U	2.3	U	0.46	U	0.45	U	0.45	U	0.46	U	0.48	U	0.49	U
4-Chloro-3-methylphenol ⁽²⁾	ug/L	100	0.64	U	3.2	U	0.64	U	0.62	U	0.62	U	0.64	U	0.66	U	0.67	U
4-Methylphenol	ug/L	--	7000		19000		68000		5.6	J	11		7.7	J	260		1200	
4-Nitroaniline	ug/L	--	0.28	U	1.4	U	0.27	U	0.27	U	0.27	U	0.28	U	0.28	U	0.29	U
4-Nitrophenol	ug/L	--	0.76	U	3.8	U	0.76	U	0.74	U	0.74	U	0.76	U	0.79	U	0.8	U
Acenaphthene	ug/L	400	380		11000	U	560	U	1	J	2.5	J	0.57	U	200		21	
Acenaphthylene ⁽²⁾	ug/L	100	35		78		0.5	U	0.49	U	0.49	U	0.5	U	3.4	J	0.53	U
Acetophenone	ug/L	700	0.5	U	2.5	U	0.5	U	0.49	U	0.72	J	0.5	U	0.52	U	6.8	J
Anthracene	ug/L	2000	32		77		15		0.53	U	0.55	J	0.55	U	0.8	J	6.3	J
Atrazine	ug/L	3	0.42	U	2.1	U	0.42	U	0.41	U	0.41	U	0.42	U	0.44	U	0.44	U
Benzaldehyde	ug/L	--	0.59	U	2.9	U	0.58	U	0.57	U	0.57	U	0.59	U	0.61	U	0.62	U
Benzo(a)anthracene	ug/L	0.1	0.45	U	2.2	U	0.44	U	0.43	U	0.43	U	0.45	U	0.46	U	0.99	J
Benzo(a)pyrene	ug/L	0.1	0.48	U	2.4	U	1.9	J	0.46	U	0.46	U	0.48	U	0.49	U	0.5	U
Benzo(b)fluoranthene	ug/L	0.2	0.34	U	1.7	U	0.34	U	0.33	U	0.33	U	0.34	U	0.35	U	1	J
Benzo(ghi)perylene ⁽²⁾	ug/L	100	0.3	U	1.5	U	0.3	U	0.29	U	0.29	U	0.3	U	0.31	U	0.31	U
Benzo(k)fluoranthene	ug/L	0.5	0.43	U	2.1	U	0.43	U	0.41	U	0.41	U	0.43	U	0.44	U	0.45	U
Bis(2-chloroethoxy)methane	ug/L	--	1.3	U	6.6	U	1.3	U	1.3	U	1.3	U	1.3	U	1.4	U	1.4	U
Bis(2-chloroethyl)ether	ug/L	7	0.5	U	2.5	U	0.5	U	0.48	U	0.48	U	0.5	U	0.52	U	0.52	U
Bis(2-ethylhexyl)phthalate	ug/L	3	1.3	U	6.5	U	3.8	J	1.8	J	1.3	U	2	J	2	J	1.7	J
Butyl benzyl phthalate	ug/L	100	1.5	U	7.5	U	1.5	U	2.5	J	1.4	U	1.5	U	1.5	J	1.6	U
Caprolactam ⁽²⁾	ug/L	5000	2	U	10	U	2	U	5.1	J	2	U	5.3	J	2.1	U	2.1	U
Carbazole	ug/L	--	28		36	J	7	J	2	J	0.55	U	0.6	J	2.8	J	2.7	J
Chrysene	ug/L	5	0.39	U	1.9	U	0.38	U	0.37	U	0.37	U	0.39	U	0.4	U	0.81	J
Dibenzo(a,h)anthracene	ug/L	0.3	0.38	U	1.9	U	0.38	U	0.37	U	0.37	U	0.38	U	0.39	U	0.4	U
Dibenzofuran	ug/L	--	94		2.9	U	56		0.56	U	1	J	0.58	U	32		26	
Diethyl phthalate	ug/L	6000	2.7	U	13	U	2.6	U	2.6	U	2.6	U	2.7	U	2.7	U	2.8	U
Dimethyl phthalate ⁽²⁾	ug/L	100	0.46	U	2.3	U	0.46	U	0.44	U	0.44	U	0.46	U	0.47	U	0.48	U

TABLE 4-11
ANALYTICAL RESULTS
GROUNDWATER SAMPLES - SAND UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-12L 04/25/08 Primary	SC-MW-13L 04/25/08 Primary	SC-MW-14L 04/24/08 Primary	SC-MW-15L 04/24/08 Primary	SC-MW-2L 04/24/08 Primary	SC-MW-3L 04/24/08 Primary	SC-MW-4L 04/24/08 Primary	SC-MW-8L 04/24/08 Primary								
Semivolatile Organics (Continued)																		
Di-n-butyl phthalate	ug/L	700	0.51	U	2.5	U	0.5	U	0.49	U	0.51	U	0.6	J	0.53	U		
Di-n-octyl phthalate	ug/L	100	0.46	U	2.3	U	0.46	U	0.45	U	0.45	U	0.46	U	0.48	U	0.49	U
Fluoranthene	ug/L	300	7.6	J	13	J	0.53	U	0.61	J	0.52	U	0.54	U	1.2	J	3.8	J
Fluorene	ug/L	300	76		170		32		0.57	U	0.94	J	0.59	U	6.4	J	17	
Hexachlorobenzene	ug/L	0.02	43		2.4	U	0.47	U	0.46	U	0.46	U	0.47	U	1.1	J	7.8	J
Hexachlorobutadiene	ug/L	1	0.41	U	2	U	0.41	U	0.39	U	0.39	U	0.41	U	0.42	U	0.43	U
Hexachlorocyclopentadiene	ug/L	40	0.87	U	4.4	U	0.86	U	0.84	U	0.84	U	0.87	U	0.9	U	0.91	U
Hexachloroethane	ug/L	7	0.47	U	2.4	U	0.47	U	0.46	U	0.46	U	0.47	U	0.49	U	0.5	U
Indeno(1,2,3-cd)pyrene	ug/L	0.2	0.52	U	2.6	U	0.51	U	0.5	U	0.5	U	0.52	U	0.53	U	0.54	U
Isophorone	ug/L	40	0.52	U	2.6	U	0.51	U	0.5	U	0.5	U	0.52	U	0.53	U	0.54	U
Naphthalene	ug/L	300	2400		1700	J	9100	J	24		30		57		350		5300	
Nitrobenzene	ug/L	6	0.7	U	3.5	U	0.69	U	0.67	U	0.67	U	0.7	U	0.72	U	0.73	U
N-Nitrosodiphenylamine	ug/L	10	0.53	U	2.7	U	0.53	U	0.51	U	0.51	U	0.53	U	0.55	U	0.56	U
N-Nitrosodipropylamine	ug/L	10	0.65	U	3.2	U	0.64	U	0.62	U	0.62	U	0.65	U	0.67	U	0.68	U
Pentachlorophenol	ug/L	0.3	0.9	U	4.5	U	0.9	U	0.87	U	0.87	U	0.9	U	0.93	U	0.95	U
Phenanthrene ⁽²⁾	ug/L	100	49		19	J	8.2	J	0.85	J	0.98	J	0.76	J	11		18	
Phenol	ug/L	2000	3700		19000		40000		7.2	J	8.2	J	6.5	J	55		1500	
Pyrene	ug/L	200	8.3	J	31	J	12		0.59	U	0.59	U	0.62	U	0.84	J	2.2	J
Metals																		
Aluminum	ug/L	200	4890	J	390000	J	13000		123	B	4210		308		7950		3400	
Antimony	ug/L	6	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
Arsenic	ug/L	3	25		56.5		6	B	2.2	U	268		191		330		9.1	B
Barium	ug/L	6000	18.9	B	44.5	B	24.3	B	88.9	B	240	J	417	J	220	J	50.6	B
Beryllium	ug/L	1	1.1	B	14.4		0.32	U	0.32	U	7.4		0.6	B	17.8		1.2	B
Cadmium	ug/L	4	0.23	U	0.23	U	0.49	B	0.23	U	5		1.2	B	0.65	B	2	B
Calcium	ug/L	--	208000	J	443000	J	495000	J	57600	J	94000	J	63200	J	49700	J	66600	J
Chromium (Total)	ug/L	70	57.4		6930		132		4.3	B	12100		171		10700		281	
Chromium (Hexavalent)	ug/L	--	10	U	20	U	10	U	10	U	250	U	250	U	500	U	10	U
Cobalt ⁽²⁾	ug/L	100	11.1	B	162		8.4	B	0.7	U	5.3	B	0.9	B	6.5	B	14.2	B
Copper	ug/L	1300	0.72	U	0.72	U	0.82	B	1.3	B	16.5	B	1	B	12	B	8.9	B
Iron	ug/L	300	73600		309000		45600		8120		44600		105000		55300		118000	
Lead	ug/L	5	2.4	U	401		2.4	U	79.4		26.4		2.4	U	12.1		3.2	
Magnesium	ug/L	--	27300	J	133000	J	70200	J	27400	J	75200	J	79800	J	43500	J	93600	J
Manganese	ug/L	50	1000		3590		646		268		715		1510		1080		8580	
Mercury	ug/L	2	0.055	U	0.085	B	0.055	U	0.055	U	0.16	B	0.055	U	0.2		0.055	U
Nickel	ug/L	100	68.3		1980		71.9		1.2	B	47.3		4.1	B	70.5		14.7	B
Potassium	ug/L	--	13900		200000		18200		13600		27700		39100		31400		45900	
Selenium	ug/L	40	5.1		34.3		6.2		2.5	U	4.3	B	2.5	U	5.9		2.5	U
Silver	ug/L	40	0.65	B	0.83	B	0.59	U	0.59	U	0.94	B	0.97	B	1.8	B	2.3	B
Sodium	ug/L	50000	210000		1010000		226000		64200		1440000		771000		1370000		1430000	
Thallium	ug/L	2	3.1	U	15.4	U	3.1	U	3.1	U	3.3	B	3.1	U	3.1	U	3.1	U
Vanadium ⁽³⁾	ug/L	60	24.4	B	386		8	B	6.4	B	531	J	77.7	J	1520	J	286	J
Zinc	ug/L	2000	78.7		818		42.1		1.5	B	115		2.2	B	45.2		36.6	

TABLE 4-11

ANALYTICAL RESULTS
GROUNDWATER SAMPLES - SAND UNIT
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SC-MW-12L 04/25/08 Primary		SC-MW-13L 04/25/08 Primary		SC-MW-14L 04/24/08 Primary		SC-MW-15L 04/24/08 Primary		SC-MW-2L 04/24/08 Primary		SC-MW-3L 04/24/08 Primary		SC-MW-4L 04/24/08 Primary		SC-MW-8L 04/24/08 Primary	
PCBs																		
Aroclor 1016	ug/L	0.5	4.5		7.5		1.2		0.1	U	0.1	U	0.1	U	0.1	U	78	
Aroclor 1221	ug/L	0.5	0.1	U	1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	2.1	U
Aroclor 1232	ug/L	0.5	0.12	U	1.2	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	2.4	U
Aroclor 1242	ug/L	0.5	0.077	U	0.76	U	0.076	U	0.076	U	0.076	U	0.076	U	0.077	U	1.5	U
Aroclor 1248	ug/L	0.5	0.095	U	0.93	U	0.61	PG	0.093	U	0.093	U	0.093	U	0.095	U	58	
Aroclor 1254	ug/L	0.5	0.095	U	0.93	U	0.093	U	0.093	U	0.093	U	0.093	U	0.095	U	1.9	U
Aroclor 1260	ug/L	0.5	1.4		0.55	U	0.055	U	0.055	U	0.055	U	0.055	U	0.056	U	14	
Aroclor 1262	ug/L	0.5	0.086	U	0.84	U	0.084	U	0.084	U	0.084	U	0.084	U	0.086	U	1.7	U
Aroclor 1268	ug/L	0.5	0.11	U	1.1	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	2.3	U
Pesticides																		
4,4'-DDD	ug/L	0.1	0.0087	JPG	0.079	U	0.0079	U	0.0079	U	0.0079	U	0.0079	U	0.008	U	0.08	U
4,4'-DDE	ug/L	0.1	0.21		0.069	U	0.043	J	0.0069	U	0.0069	U	0.0069	U	0.013	J	0.59	PG
4,4'-DDT	ug/L	0.1	0.014	U	0.14	U	0.014	U	0.014	U	0.014	U	0.014	U	0.014	U	0.24	J
Aldrin	ug/L	0.04	0.012	U	0.12	JPG	0.011	U	0.011	U	0.011	U	0.011	U	0.012	U	0.12	U
alpha-BHC	ug/L	0.02	0.016	U	0.15	U	0.015	U	0.015	U	0.015	U	0.015	U	0.016	U	0.16	U
alpha-Chlordane	ug/L	0.5	0.012	U	0.38	J	0.011	U	0.011	U	0.011	U	0.011	U	0.018	J	0.12	U
beta-BHC	ug/L	0.04	0.015	U	0.15	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.15	U
delta-BHC	ug/L	--	0.0098	U	0.24	J	0.09		0.0097	U	0.0097	U	0.0097	U	0.021	J	2.8	
Dieldrin	ug/L	0.03	0.0083	U	0.082	U	0.0082	U	0.0082	U	0.0082	U	0.0082	U	0.024	J	0.083	U
Endosulfan I	ug/L	40	0.0077	U	0.076	U	0.0076	U	0.0076	U	0.0076	U	0.0076	U	0.0077	U	0.21	J
Endosulfan II	ug/L	40	0.063	PG	0.15	U	0.015	U	0.015	U	0.015	U	0.015	U	0.016	U	0.16	J
Endosulfan sulfate	ug/L	40	0.017	U	0.16	U	0.016	U	0.016	U	0.016	U	0.016	U	0.017	U	0.49	J
Endrin	ug/L	2	0.0079	U	0.078	U	0.012	J	0.0078	U	0.0078	U	0.0078	U	0.0079	U	0.1	J
Endrin aldehyde	ug/L	--	0.013	U	0.12	U	0.085	PG	0.012	U	0.012	U	0.012	U	0.013	U	0.13	U
Endrin ketone	ug/L	--	0.025	JPG	0.1	U	0.028	J	0.01	U	0.01	U	0.01	U	0.01	U	0.1	U
gamma-Chlordane	ug/L	0.5	0.0079	U	0.077	U	0.0077	U	0.0077	U	0.0077	U	0.0077	U	0.0079	U	0.079	U
Heptachlor	ug/L	0.05	0.066	PG	0.17	JPG	0.042	J	0.014	U	0.014	U	0.014	U	0.014	U	2.1	
Heptachlor epoxide	ug/L	0.2	0.079		0.1	U	0.077	PG	0.01	U	0.01	U	0.01	U	0.018	J	0.93	PG
Lindane	ug/L	0.03	0.016	U	0.15	U	0.2		0.015	U	0.015	U	0.015	U	0.016	U	0.62	PG
Methoxychlor	ug/L	40	0.019	U	0.19	U	0.019	U	0.019	U	0.019	U	0.019	U	0.019	U	0.19	U
Toxaphene	ug/L	2	0.43	U	4.2	U	0.42	U	0.42	U	0.42	U	0.42	U	0.43	U	4.3	U
Indicators																		
Biological Oxygen Demand (BOD)	mg/L	--	297		457		415		129		120		17.3		240		40.9	
Carbon	mg/L	--	886	J	7050	J	849	J	18.4	J	51.4	J	67.6	J	245	J	136	J
Chemical Oxygen Demand (COD)	mg/L	--	2950		23900		2810		66		275		227		687		504	
Oil & Grease (HEM)	mg/L	--	26.9		15.9		6		0.52	U	NA		0.52	U	NA		7	
Residue, filterable	mg/L	--	2970		21700		4390		454		6300		2930		7070		5330	
Residue, non-filterable	mg/L	--	39.6		30.8		31.5		8		14.5		167		26.8		21.5	
Total Alkalinity	mg/L	--	10.7	J	0.41	U	0.41	U	316	J	1090	J	748	J	1940	J	836	J

1. Specific Ground Water Quality Criteria - Class IIA - from Appendix Table 1 New Jersey Administrative Code 7:9C unless otherwise noted. Last amended July 7, 2008.
2. Interim Ground Water Quality Criteria as listed at www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm.
3. Standard reported for vanadium is for vanadium pentoxide.

Data qualifiers are as follows:

- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-12

ANALYTICAL RESULTS
DENSE NON-AQUEOUS PHASE LIQUID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion	SC-MW-3L 04/30/08 Primary	SC-MW-13L 04/30/08 Primary		
Polychlorinated Dioxins/Furans						
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	9.2		6000	U
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	1200	B	400000	
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	35		12000	U
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.83	QJ	890	U
1,2,3,4,7,8-HxCDF	ug/Kg	--	310	QB	130000	
1,2,3,6,7,8-HxCDD	ug/Kg	--	3	J	2300	U
1,2,3,6,7,8-HxCDF	ug/Kg	--	63	QB	15000	J
1,2,3,7,8,9-HxCDD	ug/Kg	--	1.6	QJ	1500	U
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.34	QJ	580	U
1,2,3,7,8-PCDD	ug/Kg	--	1.7	QJ	1900	U
1,2,3,7,8-PCDF	ug/Kg	--	8.7		2600	U
2,3,4,6,7,8-HxCDF	ug/Kg	--	15		5100	U
2,3,4,7,8-PCDF	ug/Kg	--	28	Q	16000	J
2,3,7,8-TCDD	ug/Kg	--	0.55	QJ	210	U
2,3,7,8-TCDF	ug/Kg	--	5.4	Q	13000	
OCDD	ug/Kg	--	32	B	23000	U
OCDF	ug/Kg	--	2100	B	880000	
Total HpCDD	ug/Kg	--	23		6000	U
Total HpCDF	ug/Kg	--	1300	B	430000	
Total HxCDD	ug/Kg	--	24	Q	5600	U
Total HxCDF	ug/Kg	--	770	QB	210000	
Total PeCDD	ug/Kg	--	31	Q	7700	U
Total PeCDF	ug/Kg	--	380	Q	70000	
Total TCDD	ug/Kg	--	43	Q	20000	
Total TCDF	ug/Kg	--	250	Q	34000	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)						
1,2,3,4,6,7,8-HpCDD	0.01	--	0.092		--	
1,2,3,4,6,7,8-HpCDF	0.01	--	12		4000	
1,2,3,4,7,8,9-HpCDF	0.01	--	0.35		--	
1,2,3,4,7,8-HxCDD	0.10	--	--		--	
1,2,3,4,7,8-HxCDF	0.10	--	--		13000	
1,2,3,6,7,8-HxCDD	0.10	--	0.3		--	
1,2,3,6,7,8-HxCDF	0.10	--	--		1500	
1,2,3,7,8,9-HxCDD	0.10	--	--		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		--	
1,2,3,7,8-PCDD	1.00	--	--		--	
1,2,3,7,8-PCDF	0.05	--	0.435		--	
2,3,4,6,7,8-HxCDF	0.10	--	1.5		--	
2,3,4,7,8-PCDF	0.50	--	--		8000	
2,3,7,8-TCDD	1.00	--	--		--	
2,3,7,8-TCDF	0.10	--	--		1300	
OCDD	0.0001	--	0.0032		--	
OCDF	0.0001	--	0.21		88	
Total 2,3,7,8-TCDD Equivalents ⁽¹⁾	ug/Kg	1	1.5E+01		2.8E+04	
Metals						
Chromium (Hexavalent) ⁽²⁾	mg/Kg	20	2	U	2	U
Toxicity Characteristic Leaching Procedure⁽³⁾						
1,1-Dichloroethene	mg/Kg	0.7	58	U	58	U
1,2-Dichloroethane	mg/Kg	0.5	55	U	55	U
1,4-Dichlorobenzene	mg/Kg	7.5	520000		6300	J
2,4,5-Trichlorophenol	mg/Kg	400	970	U	970	U
2,4,6-Trichlorophenol	mg/Kg	2	700	U	700	U
2,4-Dinitrotoluene	mg/Kg	0.13	900	U	900	U
2-Butanone	mg/Kg	200	49	U	49	U

TABLE 4-12

**ANALYTICAL RESULTS
DENSE NON-AQUEOUS PHASE LIQUID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Criterion	SC-MW-3L 04/30/08 Primary		SC-MW-13L 04/30/08 Primary	
Toxicity Characteristic Leaching Procedure⁽³⁾ (Continued)						
Benzene	mg/Kg	0.5	110	J	52	U
Carbon tetrachloride	mg/Kg	0.5	45	U	45	U
Chlorobenzene	mg/Kg	100	8800		410	
Chloroform	mg/Kg	6	53	U	53	U
Cresols	mg/Kg	200	43	J	1400	J
Hexachlorobenzene	mg/Kg	0.13	820	U	12000	
Hexachlorobutadiene	mg/Kg	0.5	1400	U	1400	U
Hexachloroethane	mg/Kg	3	1400	U	1400	U
Nitrobenzene	mg/Kg	2	940	U	940	U
Pentachlorophenol	mg/Kg	100	690	U	690	U
Pyridine	mg/Kg	5	510	U	510	U
Tetrachloroethene	mg/Kg	0.7	120	J	220	J
Trichloroethene	mg/Kg	0.5	56	U	58	J
Vinyl chloride	mg/Kg	0.2	56	U	56	U
Arsenic	mg/Kg	5	0.9	B	0.29	B
Barium	mg/Kg	100	0.18	B	0.19	B
Cadmium	mg/Kg	1	0.047	U	0.047	U
Chromium	mg/Kg	5	0.42	B	0.63	
Lead	mg/Kg	5	0.16	U	0.16	U
Mercury	mg/Kg	0.2	0.028	B	0.019	B
Selenium	mg/Kg	1	0.29	U	0.84	
Silver	mg/Kg	5	0.037	U	0.037	U
Polychlorinated Biphenyls (Aroclors)						
Aroclor 1016	mg/Kg	1	0.74	U	8600	
Aroclor 1221	mg/Kg	1	0.95	U	190	U
Aroclor 1232	mg/Kg	1	0.86	U	170	U
Aroclor 1242	mg/Kg	1	0.81	U	160	U
Aroclor 1248	mg/Kg	1	0.47	U	6000	
Aroclor 1254	mg/Kg	1	0.71	U	140	U
Aroclor 1260	mg/Kg	1	0.71	U	2100	
Aroclor 1262	mg/Kg	1	1.1	U	220	U
Aroclor 1268	mg/Kg	1	0.64	U	600	J
RCRA Characteristics and Indicator Parameters						
Cyanide (Reactivity)	mg/Kg	23000	0.42	B	0.44	B
Total Sulfide (Reactivity)	mg/Kg	--	40		552	
Flashpoint (Ignitability)	°F	>200	151		>200	
Corrosivity (pH)	SU	2<pH<12.5	4.8		2.9	
Total Organic Halogens	mg/Kg	--	266000	J	258000	J

Notes:

1. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.

2. Nonpromulgated criteria for hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance/rs/chrome_criteria.pdf).

3. Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

B - Organic results. Analyte detected in associated method blank

B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.

J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.

Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration. Analyte may be present below the quantitation limit indicated.

U - Not detected at the detection limit indicated.

-- - Not analyzed or criteria unavailable.

TABLE 4-13

ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	WLWC-01 05/27/08 Primary		WLWC-02 05/27/08 Primary		WLWC-03 05/27/08 Primary		WLWC-04 05/27/08 Primary		ELWC-01 05/28/08 Primary		ELWC-02 05/28/08 Primary		ELWC-03 05/28/08 Primary		ELWC-04 05/28/08 Primary		ELWC-05 05/28/08 Primary		ELWC-06 05/28/08 Primary		ELWC-06 05/28/08 Duplicate	
Sample Depth			0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-4.0 ft		0.0-3.2 ft		0.0-4.0 ft	
VOC Sample Depth			3.0-4.0 ft		3.0-4.0 ft		1.0-2.0 ft		3.0-4.0 ft		1.0-2.0 ft		1.0-2.0 ft		3.0-4.0 ft		1.0-2.0 ft		3.0-4.0 ft		3.0-4.0 ft		3.0-4.0 ft	
Volatile Organics																								
1,1,1-Trichloroethane	mg/Kg	4200	2.4	U	2.3	U	0.051	U	2.4	U	0.3	U	3.4	U	3	U	3.6	U	3.2	U	1.6	U	3	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	2.6	U	2.5	U	0.057	U	2.7	U	0.34	U	3.8	U	3.3	U	4.1	U	3.6	U	1.8	U	3.3	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	6	2.9	U	2.8	U	0.062	U	2.9	U	0.37	U	4.2	U	3.6	U	4.4	U	3.9	U	2	U	3.6	U
1,1,2-Trichloroethane	mg/Kg	--	2.5	U	2.4	U	0.054	U	2.5	U	0.32	U	3.6	U	3.1	U	3.8	U	3.4	U	1.7	U	3.1	U
1,1-Dichloroethane	mg/Kg	24	2.3	U	2.2	U	0.049	U	2.3	U	0.29	U	3.3	U	2.9	U	3.5	U	3.1	U	1.6	U	2.8	U
1,1-Dichloroethene	mg/Kg	150	2.7	U	2.6	U	0.059	U	2.8	U	0.35	U	4	U	3.4	U	4.2	U	3.7	U	1.9	U	3.4	U
1,2,4-Trichlorobenzene	mg/Kg	820	23		24		0.62		29		5.7		20		130		35		3300		3400		2600	
1,2-Dibromoethane	mg/Kg	0.04	2.4	U	2.3	U	0.053	U	2.4	U	0.31	U	3.5	U	3.1	U	3.7	U	3.3	U	1.7	U	3	U
1,2-Dichlorobenzene	mg/Kg	59000	310		330		8.2		400		2.3		16	J	91		3.9	U	3400		390		360	
1,2-Dichloroethane	mg/Kg	3	2.5	U	2.4	U	0.055	U	2.6	U	0.33	U	3.7	U	3.2	U	3.9	U	3.5	U	1.8	U	3.2	U
1,2-Dichloropropane	mg/Kg	5	2.6	U	2.5	U	0.056	U	2.6	U	0.33	U	3.8	U	3.3	U	4	U	3.5	U	1.8	U	3.2	U
1,3-Dichlorobenzene	mg/Kg	59000	120		120		3.1		150		1	J	6.5	J	29		3.8	U	1300		47		52	
1,4-Dichlorobenzene	mg/Kg	13	190		190		4.8		240		3.4		11	J	54		4	J	2100		120		110	
2-Butanone	mg/Kg	44000	2.3	U	2.2	U	0.049	U	2.3	U	0.29	U	3.3	U	2.9	U	3.5	U	3.1	U	1.6	U	2.8	U
2-Hexanone	mg/Kg	--	1.8	U	1.8	U	0.04	U	1.9	U	0.24	U	2.7	U	2.3	U	2.8	U	2.5	U	1.3	U	2.3	U
4-Methyl-2-pentanone	mg/Kg	--	2	U	1.9	U	0.044	U	2	U	0.26	U	2.9	U	2.6	U	3.1	U	2.8	U	1.4	U	2.5	U
Acetone	mg/Kg	--	2.8	U	2.7	U	0.06	U	2.8	U	0.36	U	4	U	3.5	U	4.3	U	3.8	U	1.9	U	3.5	U
Benzene	mg/Kg	5	3	J	2.7	J	0.061	J	3.5	J	2.7		3.5	U	7.5	J	3.7	U	6.3	J	1.7	U	3	U
Bromodichloromethane	mg/Kg	3	2.3	U	2.2	U	0.049	U	2.3	U	0.29	U	3.3	U	2.9	U	3.5	U	3.1	U	1.6	U	2.8	U
Bromoform	mg/Kg	280	2.4	U	2.3	U	0.051	U	2.4	U	0.3	U	3.5	U	3	U	3.6	U	3.2	U	1.6	U	3	U
Bromomethane	mg/Kg	59	2.9	U	2.8	U	0.064	U	3	U	0.38	U	4.3	U	3.7	U	4.5	U	4	U	2	U	3.7	U
Carbon disulfide	mg/Kg	110000	2.8	U	2.7	U	0.062	U	2.9	U	0.37	U	4.2	U	3.6	U	4.4	U	3.9	U	2	U	3.6	U
Carbon tetrachloride	mg/Kg	2	2.1	U	2	U	0.045	U	2.1	U	0.27	U	3	U	2.6	U	3.2	U	2.8	U	1.4	U	2.6	U
Chlorobenzene	mg/Kg	7400	19		19		0.47		24		0.33	U	3.8	U	3.3	U	4	U	770		8.3		9.6	J
Chloroethane	mg/Kg	1100	3.3	U	3.2	U	0.073	U	3.4	U	0.43	U	4.9	U	4.2	U	5.1	U	4.6	U	2.3	U	4.2	U
Chloroform	mg/Kg	2	2.5	U	2.4	U	0.053	U	2.5	U	0.32	U	3.6	U	3.1	U	3.8	U	3.4	U	1.7	U	3.1	U
Chloromethane	mg/Kg	12	2.6	U	2.5	U	0.056	U	2.6	U	0.33	U	3.8	U	3.3	U	4	U	3.5	U	1.8	U	3.2	U
cis-1,2-Dichloroethene	mg/Kg	560	2.5	U	2.4	U	0.054	U	2.5	U	0.32	U	3.7	U	3.2	U	3.9	U	3.4	U	1.7	U	3.1	U
cis-1,3-Dichloropropene	mg/Kg	7	2.1	U	2	U	0.045	U	2.1	U	0.27	U	3	U	2.6	U	3.2	U	2.9	U	1.4	U	2.6	U
Cyclohexane	mg/Kg	--	2.3	U	2.2	U	0.05	U	2.3	U	0.3	U	3.4	U	2.9	U	3.6	U	3.2	U	1.6	U	2.9	U
Dibromochloromethane	mg/Kg	--	2.1	U	2.1	U	0.047	U	2.2	U	0.28	U	3.1	U	2.7	U	3.3	U	3	U	1.5	U	2.7	U
Dibromochloropropane	mg/Kg	8	2	U	1.9	U	0.042	U	2	U	0.25	U	2.9	U	2.5	U	3	U	2.7	U	1.4	U	2.4	U
Dichlorodifluoromethane	mg/Kg	230000	3	U	2.9	U	0.064	U	3	U	0.38	U	4.3	U	3.8	U	4.6	U	4.1	U	2.1	U	3.7	U
Ethylbenzene	mg/Kg	110000	5.8	J	6.1	J	0.13	J	6.8	J	8		6	J	20		7.7	J	3.8	U	2.6	J	3.4	U
Isopropylbenzene	mg/Kg	--	2.5	U	2.4	U	0.054	U	2.5	U	0.94	J	3.6	U	3.2	J	3.8	U	6.8	J	1.7	U	3.1	U
Methyl acetate	mg/Kg	--	23		22		0.49		24		9.1		3.6	U	20		3.8	U	33		1.7	U	3.1	U
Methylcyclohexane	mg/Kg	--	2.6	U	2.5	U	0.057	U	2.6	U	0.34	U	3.8	U	3.3	U	4	U	3.6	U	1.8	U	3.3	U
Methylene chloride	mg/Kg	97	1.8	U	1.7	U	0.039	U	1.8	U	0.23	U	2.6	U	2.3	U	2.7	U	2.4	U	1.2	U	2.2	U
Methyltert-butylether	mg/Kg	320	2.1	U	2.1	U	0.047	U	2.2	U	0.28	U	3.1	U	2.7	U	3.3	U	2.9	U	1.5	U	2.7	U
Styrene	mg/Kg	260	2.6	U	2.5	U	0.056	U	2.6	U	0.33	U	3.8	U	3.3	U	4	U	3.5	U	1.8	U	3.2	U
Tetrachloroethene	mg/Kg	5	3	U	2.9	U	0.066	U	3.1	U	0.39	U	4.4	U	3.8	U	4.7	U	11	J	2.1	U	3.8	U
Toluene	mg/Kg	91000	7.9	J	7.4	J	0.18	J	8.8	J	9		7.5	J	25		9.8	J	5	J	2.7	J	2.6	J
trans-1,2-Dichloroethene	mg/Kg	720	2.7	U	2.6	U	0.059	U	2.7	U	0.35	U	3.9	U	3.4	U	4.2	U	3.7	U	1.9	U	3.4	U
trans-1,3-Dichloropropene	mg/Kg	7	2	U	2	U	0.044	U	2	U	0.26	U	3	U	2.6	U	3.1	U	2.8	U	1.4	U	2.5	U
Trichloroethene	mg/Kg	20	2.6	U	2.5	U	0.056	U	2.6	U	0.34	U	3.8	U	3.3	U	4	U	3.6	U	1.8	U	3.3	U
Trichlorofluoromethane	mg/Kg	340000	3.8	U	3.6	U	0.082	U	3.8	U	0.49	U	5.5	U	4.8	U	5.8	U	5.2	U	2.6	U	4.7	U
Vinyl chloride	mg/Kg	2	2.6	U	2.5	U	0.056	U	2.6	U	0.33	U	3.8	U	3.3	U	4	U	3.6	U	1.8	U	3.2	U
Xylene (total)	mg/Kg	170000	32	J	31	J	0.74	J	36		32		36	J	96		56		12	J	18	J	14	J

TABLE 4-13

ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	WLWC-01 05/27/08 Primary		WLWC-02 05/27/08 Primary		WLWC-03 05/27/08 Primary		WLWC-04 05/27/08 Primary		ELWC-01 05/28/08 Primary		ELWC-02 05/28/08 Primary		ELWC-03 05/28/08 Primary		ELWC-04 05/28/08 Primary		ELWC-05 05/28/08 Primary		ELWC-06 05/28/08 Primary		ELWC-06 05/28/08 Duplicate	
Semivolatile Organics																								
1,1'-Biphenyl	mg/Kg	34000	1800		880	J	970	J	620	J	23000	U	23000	U	23000	U	23000	U	23000	U	23000	U	2300	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	160	U	160	U	160	U	160	U	33000	U	33000	U	33000	U	33000	U	33000	U	33000	U	3300	U
2,4,5-Trichlorophenol	mg/Kg	68000	97	U	97	U	97	U	97	U	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
2,4,6-Trichlorophenol	mg/Kg	74	70	U	70	U	70	U	70	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
2,4-Dichlorophenol	mg/Kg	2100	100	U	100	U	100	U	100	U	21000	U	21000	U	21000	U	21000	U	21000	U	21000	U	2100	U
2,4-Dimethylphenol	mg/Kg	14000	1900		710	J	410	J	570	J	17000	U	17000	U	17000	U	17000	U	17000	U	17000	U	1700	U
2,4-Dinitrophenol	mg/Kg	1400	1500	U	1500	U	1500	U	1500	U	300000	U	300000	U	300000	U	300000	U	300000	U	300000	U	30000	U
2,4-Dinitrotoluene	mg/Kg	3	90	U	90	U	90	U	90	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
2,6-Dinitrotoluene	mg/Kg	3	75	U	75	U	75	U	75	U	15000	U	15000	U	15000	U	15000	U	15000	U	15000	U	1500	U
2-Chloronaphthalene	mg/Kg	--	90	U	90	U	90	U	90	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
2-Chlorophenol	mg/Kg	2200	180	U	180	U	180	U	180	U	36000	U	36000	U	36000	U	36000	U	36000	U	36000	U	3600	U
2-Methylnaphthalene	mg/Kg	2400	12000	J	21000		30000	U	15000	U	21000	U	21000	U	21000	U	24000	J	21000	U	21000	U	3700	J
2-Methylphenol	mg/Kg	3400	470	J	370	J	150	U	380	J	30000	U	30000	U	30000	U	30000	U	30000	U	30000	U	3000	U
2-Nitroaniline	mg/Kg	23000	93	U	93	U	93	U	93	U	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
2-Nitrophenol	mg/Kg	--	140	U	140	U	140	U	140	U	27000	U	27000	U	27000	U	27000	U	27000	U	27000	U	2700	U
3,3'-Dichlorobenzidine	mg/Kg	4	60	U	60	U	60	U	60	U	12000	U	12000	U	12000	U	12000	U	12000	U	12000	U	1200	U
3-Nitroaniline	mg/Kg	--	94	U	94	U	94	U	94	U	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	64	U	64	U	64	U	64	U	13000	U	13000	U	13000	U	13000	U	13000	U	13000	U	1300	U
4-Bromophenylphenyl ether	mg/Kg	--	83	U	83	U	83	U	83	U	17000	U	17000	U	17000	U	17000	U	17000	U	17000	U	1700	U
4-Chloro-3-methylphenol	mg/Kg	--	85	U	85	U	85	U	85	U	17000	U	17000	U	17000	U	17000	U	17000	U	17000	U	1700	U
4-Chloroaniline	mg/Kg	--	68	U	68	U	68	U	68	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
4-Chlorophenyl phenyl ether	mg/Kg	--	69	U	69	U	69	U	69	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
4-Methylphenol	mg/Kg	340	1400		1300		280	J	1400		45000	U	45000	U	45000	U	45000	U	45000	U	45000	U	4500	U
4-Nitroaniline	mg/Kg	--	58	U	58	U	58	U	58	U	12000	U	12000	U	12000	U	12000	U	12000	U	12000	U	1200	U
4-Nitrophenol	mg/Kg	--	69	U	69	U	69	U	69	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
Acenaphthene	mg/Kg	37000	1700		530	J	420	J	1400		16000	U	16000	U	16000	U	16000	U	16000	U	16000	U	1600	U
Acenaphthylene	mg/Kg	300000	92	U	92	U	92	U	92	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
Acetophenone	mg/Kg	5	150	U	150	U	150	U	150	U	30000	U	30000	U	30000	U	30000	U	30000	U	30000	U	3000	U
Anthracene	mg/Kg	30000	1000		220	J	520	J	710	J	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
Atrazine	mg/Kg	2400	140	U	140	U	140	U	140	U	29000	U	29000	U	29000	U	29000	U	29000	U	29000	U	2900	U
Benzaldehyde	mg/Kg	68000	210	U	210	U	210	U	210	U	41000	U	41000	U	41000	U	41000	U	41000	U	41000	U	4100	U
Benzo(a)anthracene	mg/Kg	2	99	U	99	U	99	U	99	U	20000	U	20000	U	20000	U	20000	U	20000	U	20000	U	2000	U
Benzo(a)pyrene	mg/Kg	0.2	91	U	91	U	91	U	91	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
Benzo(b)fluoranthene	mg/Kg	2	130	U	130	U	130	U	130	U	27000	U	27000	U	27000	U	27000	U	27000	U	27000	U	2700	U
Benzo(ghi)perylene	mg/Kg	30000	87	U	87	U	87	U	87	U	17000	U	17000	U	17000	U	17000	U	17000	U	17000	U	1700	U
Benzo(k)fluoranthene	mg/Kg	23	130	U	130	U	130	U	130	U	26000	U	26000	U	26000	U	26000	U	26000	U	26000	U	2600	U
Bis(2-chloroethoxy)methane	mg/Kg	--	110	U	110	U	110	U	110	U	23000	U	23000	U	23000	U	23000	U	23000	U	23000	U	2300	U
Bis(2-chloroethyl)ether	mg/Kg	2	110	U	110	U	110	U	110	U	23000	U	23000	U	23000	U	23000	U	23000	U	23000	U	2300	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	98	U	98	U	98	U	98	U	20000	U	20000	U	20000	U	20000	U	20000	U	20000	U	2000	U
Butyl benzyl phthalate	mg/Kg	14000	110	U	110	U	110	U	110	U	21000	U	21000	U	21000	U	21000	U	21000	U	21000	U	2100	U
Caprolactam	mg/Kg	340000	140	U	140	U	140	U	140	U	29000	U	29000	U	29000	U	29000	U	29000	U	29000	U	2900	U
Carbazole	mg/Kg	96	500	J	88	U	110	J	300	J	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
Chrysene	mg/Kg	230	97	U	97	U	97	U	97	U	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
Dibenzo(a,h)anthracene	mg/Kg	0.2	67	U	67	U	67	U	67	U	13000	U	13000	U	13000	U	13000	U	13000	U	13000	U	1300	U
Dibenzofuran	mg/Kg	--	2700		1100		1300		1300		19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
Diethyl phthalate	mg/Kg	550000	92	U	92	U	92	U	92	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
Dimethyl phthalate	mg/Kg	--	81	U	81	U	81	U	81	U	16000	U	16000	U	16000	U	16000	U	16000	U	16000	U	1600	U
Di-n-butyl phthalate	mg/Kg	68000	90	U	90	U	90	U	90	U	18000	U	18000	U	18000	U	18000	U	18000	U	18000	U	1800	U
Di-n-octyl phthalate	mg/Kg	27000	87	U	87	U	87	U	87	U	17000	U	170											

TABLE 4-13

ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	WLWC-01 05/27/08 Primary		WLWC-02 05/27/08 Primary		WLWC-03 05/27/08 Primary		WLWC-04 05/27/08 Primary		ELWC-01 05/28/08 Primary		ELWC-02 05/28/08 Primary		ELWC-03 05/28/08 Primary		ELWC-04 05/28/08 Primary		ELWC-05 05/28/08 Primary		ELWC-06 05/28/08 Primary		ELWC-06 05/28/08 Duplicate	
Semivolatile Organics (Continued)																								
Hexachlorobenzene	mg/Kg	1	82	U	150	J	82	U	82	U	16000	U	16000	U	16000	U	16000	U	16000	U	16000	U	1600	J
Hexachlorobutadiene	mg/Kg	25	140	U	140	U	140	U	140	U	28000	U	28000	U	28000	U	28000	U	28000	U	28000	U	2800	U
Hexachlorocyclopentadiene	mg/Kg	110	68	U	68	U	68	U	68	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
Hexachloroethane	mg/Kg	140	140	U	140	U	140	U	140	U	28000	U	28000	U	28000	U	28000	U	28000	U	28000	U	2800	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	71	U	71	U	71	U	71	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
Isophorone	mg/Kg	2000	130	U	130	U	130	U	130	U	26000	U	26000	U	26000	U	26000	U	26000	U	26000	U	2600	U
Naphthalene	mg/Kg	17	210000		400000		330000		180000		260000		430000		600000		770000		400000		240000		250000	
Nitrobenzene	mg/Kg	340	94	U	94	U	94	U	94	U	19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
N-Nitrosodiphenylamine	mg/Kg	390	110	U	110	U	110	U	110	U	22000	U	22000	U	22000	U	22000	U	22000	U	22000	U	2200	U
N-Nitrosodipropylamine	mg/Kg	0.3	100	U	100	U	100	U	100	U	20000	U	20000	U	20000	U	20000	U	20000	U	20000	U	2000	U
Pentachlorophenol	mg/Kg	10	69	U	69	U	69	U	69	U	14000	U	14000	U	14000	U	14000	U	14000	U	14000	U	1400	U
Phenanthrene	mg/Kg	300000	2300		740	J	1400		1300		19000	U	19000	U	19000	U	19000	U	19000	U	19000	U	1900	U
Phenol	mg/Kg	210000	440	J	640	J	110	U	570	J	22000	U	22000	U	22000	U	22000	U	22000	U	22000	U	2200	U
Pyrene	mg/Kg	18000	170	J	110	U	120	J	120	J	22000	U	22000	U	22000	U	22000	U	22000	U	22000	U	2200	U
Polychlorinated Dioxins/Furans																								
1,2,3,4,6,7,8-HpCDD	ug/kg	--	1.4	U	1.8	U	0.69	U	9.8	U	15		0.64	U	8.8	J	0.45	U	410	J	410	J	460	J
1,2,3,4,6,7,8-HpCDF	ug/kg	--	280	E	440	E	4600		2400		510	E	13		59		16		32000	E	13000	E	32000	E
1,2,3,4,7,8,9-HpCDF	ug/kg	--	9.7	J	17		130	J	73	U	17		0.39	U	3.1	U	0.54	U	1100		480	J	1200	
1,2,3,4,7,8-HxCDD	ug/kg	--	0.37	U	0.24	U	0.14	U	3.8	U	3.4	U	1.7	U	1.9	U	0.28	U	62	U	100	U	99	U
1,2,3,4,7,8-HxCDF	ug/kg	--	96		220	E	1500		740		180		4.7	U	26		5.4	J	12000	E	4800		12000	E
1,2,3,6,7,8-HxCDD	ug/kg	--	0.46	U	0.89	U	0.27	U	4.1	U	6.5	U	0.5	U	5.2	U	0.32	U	110	U	190	U	250	U
1,2,3,6,7,8-HxCDF	ug/kg	--	12		29		170	J	88	U	22		0.57	U	3.7	U	0.63	U	1400		580		1500	
1,2,3,7,8,9-HxCDD	ug/kg	--	0.3	U	0.45	U	0.26	U	3.2	U	3.7	U	0.47	U	3.2	U	0.2	U	68	U	100	U	130	U
1,2,3,7,8,9-HxCDF	ug/kg	--	2.9	U	6.7	J	41	U	20	U	7.1	J	0.15	U	2.7	U	0.12	U	330	J	170	U	410	J
1,2,3,7,8-PCDD	ug/kg	--	0.35	U	0.39	U	0.36	U	0.35	U	0.35	U	0.72	U	2.1	U	0.7	U	120	U	210	U	250	U
1,2,3,7,8-PCDF	ug/kg	--	5	J	14		15	U	9.1	U	3	U	0.2	U	0.73	U	0.37	U	140	U	92	U	160	U
2,3,4,6,7,8-HxCDF	ug/kg	--	4.3	U	8.2	J	65	U	33	U	8.3	J	0.26	U	3.2	U	0.3	U	430	J	200	U	460	J
2,3,4,7,8-PCDF	ug/kg	--	7.5	J	23		120	U	56	U	28		0.63	U	8	J	1	U	1100		730		1400	
2,3,7,8-TCDD	ug/kg	--	0.046	U	0.091	U	0.16	U	1.8	U	3.7	U	0.38	U	1.6	U	0.6	U	15	U	34	U	48	U
2,3,7,8-TCDF	ug/kg	--	5.6		17		87	J	42	U	43		1.7	U	30		1.5	U	1000		880		1500	
OCDD	ug/kg	--	4.8	U	3.6	U	39	U	41	U	61		1.4	U	11	J	1.8	U	3300		840	J	930	J
OCDF	ug/kg	--	470	E	590	E	9200		4000		900	E	22		90		27		61000	E	23000	E	61000	E
Total HpCDD	ug/kg	--	1.5	U	2.1	U	0.8	U	13	U	28		0.64	U	19		0.46	U	800		750		890	
Total HpCDF	ug/kg	--	320		500		5000		2600		580		13		68		16		36000		15000		37000	
Total HxCDD	ug/kg	--	1.3	U	2.4	U	0.8	U	11	U	33		1.3	U	21		0.98	U	270		830		1900	
Total HxCDF	ug/kg	--	170		400		2500		1100		350		4.7	U	55		5.4		21000		8600		23000	
Total PeCDD	ug/kg	--	1	U	1.8	U	0.65	U	7.1	U	27		4.3	U	79		6.8	U	380	U	2000		2000	
Total PeCDF	ug/kg	--	62		190		500		150		250		2	U	82		2.3	U	8600		5200		10000	
Total TCDD	ug/kg	--	3	U	2.9		3.5	U	76	U	40		3	U	32		3.1		1000		3300		2700	
Total TCDF	ug/kg	--	29		90		350		89		290		1.7	U	140		1.5	U	4600		5000		7900	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																								
1,2,3,4,6,7,8-HpCDD	0.01	--	--		--		--		--		1.5E-01		--		8.8E-02		--		4.1E+00		4.1E+00		4.6E+00	
1,2,3,4,6,7,8-HpCDF	0.01	--	2.8E+00		4.4E+00		4.6E+01		2.4E+01		5.1E+00		1.3E-01		5.9E-01		1.6E-01		3.2E+02		1.3E+02		3.2E+02	
1,2,3,4,7,8,9-HpCDF	0.01	--	9.7E-02		1.7E-01		1.3E+00		--		--		--		--		--		--		--		1.2E+01	
1,2,3,4,7,8-HxCDD	0.10	--	--		--		--		--		1.7E+00		--		--		--		1.1E+02		4.8E+01		--	
1,2,3,4,7,8-HxCDF	0.10	--	9.6E+00		2.2E+01		1.5E+02		7.4E+01		--		--		--		--		--		--		1.2E+03	
1,2,3,6,7,8-HxCDD	0.10	--	--		--		--		--		1.8E+01		--		2.6E+00		5.4E-01		1.2E+03		4.8E+02		--	
1,2,3,6,7,8-HxCDF	0.10	--	1.2E+00		2.9E+00		1.7E+01		--		2.2E+00		--		--		--		1.4E+02		5.8E+01		1.5E+02	
1,2,3,7,8,9-HxCDD	0.10	--	--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		6.7E-01		--		--		7.1E-01		--		--		--		3.3E+01		--		4.1E+01	
1,2,3,7,8-PCDD	1.00	--	--		--		--		--		--		--		--		--		--		--		--	

TABLE 4-13
ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	WLWC-01 05/27/08 Primary		WLWC-02 05/27/08 Primary		WLWC-03 05/27/08 Primary		WLWC-04 05/27/08 Primary		ELWC-01 05/28/08 Primary		ELWC-02 05/28/08 Primary		ELWC-03 05/28/08 Primary		ELWC-04 05/28/08 Primary		ELWC-05 05/28/08 Primary		ELWC-06 05/28/08 Primary		ELWC-06 05/28/08 Duplicate	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continued)																								
1,2,3,7,8-PCDF	0.05	--	2.5E-01		7.0E-01		--		--		--		--		--		--		--		--		--	
2,3,4,6,7,8-HxCDF	0.10	--	--		8.2E-01		--		--		8.3E-01		--		--		--		4.3E+01		--		4.6E+01	
2,3,4,7,8-PCDF	0.50	--	3.8E+00		1.2E+01		--		--		1.4E+01		--		4.0E+00		--		5.5E+02		3.7E+02		7.0E+02	
2,3,7,8-TCDD	1.00	--	--		--		--		--		--		--		--		--		--		--		--	
2,3,7,8-TCDF	0.10	--	5.6E-01		1.7E+00		8.7E+00		--		4.3E+00		--		3.0E+00		--		1.0E+02		8.8E+01		1.5E+02	
OCDD	0.0001	--	--		--		--		--		6.1E-03		--		1.1E-03		--		3.3E-01		8.4E-02		9.3E-02	
OCDF	0.0001	--	4.7E-02		5.9E-02		9.2E-01		4.0E-01		9.0E-02		2.2E-03		9.0E-03		2.7E-03		6.1E+00		2.3E+00		6.1E+00	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	1.8E+01		4.5E+01		2.2E+02		9.8E+01		4.7E+01		1.3E-01		1.0E+01		7.0E-01		2.5E+03		1.2E+03		2.6E+03	
Polychlorinated Biphenyls (Aroclors)																								
Aroclor 1016	mg/Kg	1	1.5	U	1.5	U	0.074	U	0.074	U	0.74	U	0.074	U	0.074	U	0.74	U	15	U	7.4	U	3.7	U
Aroclor 1221	mg/Kg	1	1.9	U	1.9	U	0.095	U	0.095	U	0.95	U	0.095	U	0.095	U	0.95	U	19	U	9.5	U	4.8	U
Aroclor 1232	mg/Kg	1	1.7	U	1.7	U	0.086	U	0.086	U	70		0.086	U	0.086	U	200		2300		6200		3100	
Aroclor 1242	mg/Kg	1	1.6	U	1.6	U	0.081	U	0.081	U	0.81	U	0.081	U	0.081	U	0.81	U	16	U	8.1	U	4.1	U
Aroclor 1248	mg/Kg	1	0.95	U	0.95	U	0.047	U	0.047	U	18		0.047	U	0.047	U	46		650	PG	1300		780	
Aroclor 1254	mg/Kg	1	1.4	U	1.4	U	0.071	U	0.071	U	0.71	U	0.071	U	0.071	U	0.71	U	14	U	7.1	U	3.6	U
Aroclor 1260	mg/Kg	1	3.4	J	2.5	JP	0.071	U	0.071	U	0.71	U	0.071	U	0.071	U	0.71	U	14	U	7.1	U	3.6	U
Aroclor 1262	mg/Kg	1	2.2	U	2.2	U	0.11	U	0.11	U	1.1	U	0.11	U	0.11	U	1.1	U	22	U	11	U	5.5	U
Aroclor 1268	mg/Kg	1	1.3	U	1.3	U	0.064	U	0.064	U	0.64	U	0.064	U	0.064	U	0.64	U	13	U	6.4	U	3.2	U
Metals																								
Aluminum	mg/Kg	--	79.6		3200		6220		155		245		141		66		17.1	B	112		246		243	
Antimony	mg/Kg	450	3.2		0.18	U	1.9		2.4		0.092	U	0.8	B	1.4		2.1		2		8.5		12.8	
Arsenic	mg/Kg	19	3.3		3.8		23.1		8.3		0.64	B	0.5	B	1.9		5.1		1.7		1.4		1.1	
Barium	mg/Kg	59000	21.2	J	22.5	J	262	J	60.1	J	9.8	BJ	4.2	BJ	9.8	BJ	6.7	BJ	7.3	BJ	9.9	BJ	8	BJ
Beryllium	mg/Kg	140	0.037	B	0.031	U	0.99		0.031	U	0.031	U	0.031	U	0.031	U	0.035	B	0.031	U	0.031	U	0.031	U
Cadmium	mg/Kg	78	0.07	B	0.15	B	1.8		0.25	B	0.36	B	0.047	U	0.047	U	0.047	U	0.047	U	0.047	U	0.047	U
Calcium	mg/Kg	--	140	B	14700		6460		49000		1040		316	B	216	B	321	B	162	B	327	B	289	B
Chromium ⁽³⁾	mg/Kg	120000	60.9		3220		496		36.8		305		51.5		51.9		8.1		122		428		355	
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	65.4		564		12.1		15.9		278		14.9		8		0.4	U	45.8		129		126	
Cobalt	mg/Kg	590	1.6	B	11.9		6		0.5	B	0.92	B	0.55	B	0.15	B	0.21	B	0.88	B	0.69	B	0.64	B
Copper	mg/Kg	45000	197		98.6		45.8		31.8		26.7		54.5		49.1		146		38.8		66		40.4	
Iron	mg/Kg	--	580		9050		8000		482		2310		417		155		91.6		3660		1320		1690	
Lead	mg/Kg	800	289		537		2350		681		7.3		206		799		875		138		282		172	
Magnesium	mg/Kg	--	102	B	2950		1310		156	B	390	B	519		183	B	59	B	214	B	226	B	215	B
Manganese	mg/Kg	5900	2.6		66.2		42.6		4.2		5.9		3.6		1.5		0.86	B	18.8		6.9		8.7	
Mercury	mg/Kg	65	15		14.6		13.4		38.8		9.5		10.1		5.1		15.8		6.4		14.3		11.2	
Nickel	mg/Kg	23000	77.2		113		87.1		18.3		3	B	23.4		4.1		17.2		18.9		15.7		11.2	
Potassium	mg/Kg	--	50	U	50	U	587		51.3	B	64.3	B	50	U	50	U	50	U	50	U	50	U	50	U
Selenium	mg/Kg	5700	1.7		1.8		1		1.1		0.29	U	0.77		1.5		1.4		0.45	B	0.81		0.64	
Silver	mg/Kg	5700	0.12	BJ	0.26	BJ	0.17	BJ	0.095	BJ	0.069	BJ	0.096	BJ	0.18	BJ	0.16	BJ	0.2	BJ	0.24	BJ	0.2	BJ
Sodium	mg/Kg	--	345	B	843		91.1	B	304	B	1330		916		417	B	557		1210		410	B	388	B
Thallium	mg/Kg	79	0.64	U	0.32	U	0.32	U	0.32	U	0.32	U	0.64	U	0.64	U	0.64	U	0.32	U	0.32	U	0.32	U
Vanadium	mg/Kg	1100	3	B	85		28.5		3.4	B	15.2		2.7	B	1.9	B	1.1	B	2.7	B	4.1	B	3.6	B
Zinc	mg/Kg	110000	7.8		58.3		310		20.8		165		5.2		2.7		2.6		7.3		5.9		5.5	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																								
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--	
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	--	
1,4-Dichlorobenzene	mg/L	7.5	0.82		0.45		0.0048	J	0.078		0.02	J	0.0098	J	0.022	J	0.018	J	9.7		0.26		--	
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	--	
2,4,6-Trichlorophenol	mg/L	2	0.041	J	0.0026	U	0.018	J	0.1		0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	--	
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	--	

TABLE 4-13
ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	WLWC-01 05/27/08 Primary	WLWC-02 05/27/08 Primary	WLWC-03 05/27/08 Primary	WLWC-04 05/27/08 Primary	ELWC-01 05/28/08 Primary	ELWC-02 05/28/08 Primary	ELWC-03 05/28/08 Primary	ELWC-04 05/28/08 Primary	ELWC-05 05/28/08 Primary	ELWC-06 05/28/08 Primary	ELWC-06 05/28/08 Duplicate
Toxicity Characteristic Leaching Procedure ⁽⁴⁾ (Continued)													
2-Butanone	mg/L	200	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	--
Benzene	mg/L	0.5	0.033	U	0.033	U	0.033	U	0.073	J	0.033	U	--
Carbon Tetrachloride	mg/L	0.5	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	--
Chlorobenzene	mg/L	100	0.43		0.18	J	0.028	U	0.028	U	0.028	U	--
Chloroform	mg/L	6	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	--
Cresols	mg/L	200	27		50		7.8		48		55		--
Hexachlorobenzene	mg/L	0.13	0.0082	J	0.0049	U	0.0049	U	0.0049	U	0.0049	U	--
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	--
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	--
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	--
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	--
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	--
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	--
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	--
Arsenic	mg/L	5	0.14	B	0.18	B	0.17	B	0.25	B	0.27	B	--
Barium	mg/L	100	0.034	BJ	0.087	BJ	0.14	BJ	0.1	BJ	0.089	BJ	--
Cadmium	mg/L	1	0.0012	U	0.0012	U	0.0012	U	0.0012	U	0.0012	U	--
Chromium	mg/L	5	0.29	B	6.5		0.12	B	0.18	B	6.3		--
Lead	mg/L	5	0.61		0.51		0.95	E	3.1		4.4		--
Mercury	mg/L	0.2	0.00034		0.000055	U	0.000055	U	0.000055	U	0.00014	B	--
Selenium	mg/L	1	0.018	B	0.015	U	0.015	U	0.015	U	0.015	U	--
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0026	B	--
RCRA Characteristics and Indicators													
Corrosivity	SU	2<pH<12.5	3.03		6.66		5.85		2.41		2.84		--
Cyanide	mg/Kg	23000	10.8	B	10	B	18.6	B	103		9.6	U	U
Total Sulfide (Reactivity)	mg/Kg	--	520		616		1320		360		472		--
Ignitability	none	--	No		No		No		No		No		--
Oxidation Reduction Potential	mV		334		321		340		370		354		--
British Thermal Unit Contect	BTU/lb		--		--		--		--		3600		--

TABLE 4-13

ANALYTICAL RESULTS
EAST AND WEST LAGOON SOLID SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Notes:

- 1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
- 2. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
- 3. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
- 4. Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- E - Organic results. Result is an estimated concentration. Outside linear calibration range.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-14

**ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Discharge Limits		ELWS-01		ELWS-02		ELWS-02D		WLWS-01		WLWS-02	
		NJDEP BGR Permit ⁽¹⁾		04/25/08		04/25/08		04/25/08		04/25/08		04/25/08	
		Monthly Average	Daily Maximum	East Lagoon Primary		East Lagoon Primary		East Lagoon Duplicate		West Lagoon Primary		West Lagoon Primary	
Volatile Organics													
1,1,1-Trichloroethane	ug/L	21	54	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
1,1,2,2-Tetrachloroethane	ug/L	--	10	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
1,1,2-Trichloroethane	ug/L	21	54	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--	--	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
1,1-Dichloroethane	ug/L	22	59	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	ug/L	26	25	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U
1,2,4-Trichlorobenzene	ug/L	68	140	5.3		13		12		0.74	J	1.4	J
1,2-Dibromoethane	ug/L	--	--	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
1,2-Dichlorobenzene	ug/L	77	163	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U
1,2-Dichloroethane	ug/L	68	211	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
1,2-Dichloropropane	ug/L	153	230	0.67	U	0.67	U	0.67	U	0.67	U	0.67	U
1,3-Dichlorobenzene	ug/L	31	44	6.4		16		17		2.5	J	6.4	
1,4-Dichlorobenzene	ug/L	--	28	12		44		45		1.6	J	11	
2-Butanone	ug/L	--	--	0.73	U	0.73	U	0.73	U	0.73	U	0.73	U
2-Hexanone	ug/L	--	--	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
4-Methyl-2-pentanone	ug/L	--	--	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
Acetone	ug/L	--	--	5	U	5	U	5	U	5	U	5	U
Benzene	ug/L	37	136	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U
Bromodichloromethane	ug/L	--	12	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
Bromoform	ug/L	29	58	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
Bromomethane	ug/L	20	40	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Carbon disulfide	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Carbon tetrachloride	ug/L	9	--	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U
Chlorobenzene	ug/L	15	28	0.71	U	1.4	J	1.4	J	1.8	J	5.2	
Chloroethane	ug/L	104	268	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Chloroform	ug/L	21	46	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U
Chloromethane	ug/L	86	190	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U
cis-1,2-Dichloroethene	ug/L	--	--	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	ug/L	29	44	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
Cyclohexane	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Dibromochloropropane	ug/L	--	--	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Dibromochloromethane	ug/L	--	14	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	ug/L	--	--	1	U	1	U	1	U	1	U	1	U
Ethylbenzene	ug/L	32	108	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U

TABLE 4-14

**ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Discharge Limits		ELWS-01	ELWS-02	ELWS-02D	WLWS-01	WLWS-02					
		NJDEP BGR Permit ⁽¹⁾		04/25/08	04/25/08	04/25/08	04/25/08	04/25/08					
		Monthly Average	Daily Maximum	East Lagoon Primary	East Lagoon Primary	East Lagoon Duplicate	West Lagoon Primary	West Lagoon Primary					
Volatile Organics (Continued)													
Isopropylbenzene	ug/L	--	--	0.72	U	0.72	U	0.72	U	0.72	U	0.72	U
Methyl Acetate	ug/L	--	--	0.47	U	0.47	U	0.47	U	0.47	U	0.47	U
Methylcyclohexane	ug/L	--	--	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
Methylene chloride	ug/L	40	89	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Methyltert-butylether	ug/L	--	--	0.77	U	0.77	U	0.77	U	0.77	U	0.77	U
Styrene	ug/L	--	--	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Tetrachloroethene	ug/L	22	56	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U
Toluene	ug/L	26	80	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
trans-1,2-Dichloroethene	ug/L	21	54	0.9	U	0.9	U	0.9	U	0.9	U	0.9	U
trans-1,3-Dichloropropene	ug/L	29	44	0.57	U	0.57	U	0.57	U	0.57	U	0.57	U
Trichloroethene	ug/L	21	54	0.88	U	0.88	U	0.88	U	0.88	U	0.88	U
Trichlorofluoromethane	ug/L	--	--	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Vinyl chloride	ug/L	104	268	0.94	U	0.94	U	0.94	U	0.94	U	0.94	U
Xylene (total)	ug/L	--	--	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U
Semivolatile Organics													
1,1'-Biphenyl	ug/L	--	--	2	J	2.4	J	2.4	J	0.67	U	0.66	U
2,2'-oxybis(1-chloropropane)	ug/L	301	757	0.27	U	0.29	U	0.28	U	0.29	U	0.29	U
2,4,5-Trichlorophenol	ug/L	--	--	0.66	U	0.7	U	0.68	U	0.69	U	0.69	U
2,4,6-Trichlorophenol	ug/L	--	20	0.6	U	0.64	U	0.62	U	0.63	U	0.62	U
2,4-Dichlorophenol	ug/L	39	112	0.51	U	0.54	U	0.91	J	0.54	U	0.53	U
2,4-Dimethylphenol	ug/L	18	36	0.55	U	24		19		5.1	J	8	J
2,4-Dinitrophenol	ug/L	71	123	14	U	14	U	14	U	14	U	14	U
2,4-Dinitrotoluene	ug/L	--	18	0.48	U	0.51	U	0.49	U	0.5	U	0.5	U
2,6-Dinitrotoluene	ug/L	255	641	0.54	U	0.57	U	0.55	U	0.56	U	0.56	U
2-Chloronaphthalene	ug/L	--	--	0.47	U	0.5	U	0.48	U	0.49	U	0.49	U
2-Chlorophenol	ug/L	31	98	0.48	U	0.51	U	0.49	U	0.5	U	0.5	U
2-Methylnaphthalene	ug/L	--	--	0.63	J	0.52	U	0.51	U	0.52	U	0.55	J
2-Methylphenol	ug/L	--	--	13		15		14		8.5	J	9.1	J
2-Nitroaniline	ug/L	--	--	0.5	U	0.53	U	0.52	U	0.53	U	0.52	U
2-Nitrophenol	ug/L	41	69	0.57	U	0.61	U	0.59	U	0.6	U	0.59	U
3,3'-Dichlorobenzidine	ug/L	--	60	0.43	U	0.46	U	0.45	U	0.45	U	0.45	U
3-Nitroaniline	ug/L	--	--	0.43	U	0.45	U	0.44	U	0.45	U	0.44	U
4,6-Dinitro-2-methylphenol	ug/L	--	--	15	U	16	U	15	U	16	U	16	U
4-Bromophenylphenyl ether	ug/L	--	--	0.53	U	0.56	U	0.54	U	0.55	U	0.55	U

TABLE 4-14

**ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Discharge Limits		ELWS-01		ELWS-02		ELWS-02D		WLWS-01		WLWS-02	
		NJDEP BGR Permit ⁽¹⁾		04/25/08		04/25/08		04/25/08		04/25/08		04/25/08	
		Monthly Average	Daily Maximum	East Lagoon Primary	East Lagoon Primary	East Lagoon Duplicate	West Lagoon Primary	West Lagoon Primary					
Semivolatile Organics (Continued)													
4-Chloro-3-methylphenol	ug/L	--	--	0.63	U	0.66	U	0.64	U	0.66	U	0.65	U
4-Chloroaniline	ug/L	--	--	0.49	U	0.52	U	0.5	U	0.51	U	0.51	U
4-Chlorophenyl phenyl ether	ug/L	--	--	0.45	U	0.48	U	0.46	U	0.47	U	0.47	U
4-Methylphenol	ug/L	--	--	27		50		47		14		18	
4-Nitroaniline	ug/L	--	--	0.27	U	0.28	U	0.28	U	0.28	U	0.28	U
4-Nitrophenol	ug/L	72	124	0.74	U	0.79	U	0.76	U	0.78	U	0.77	U
Acenaphthene	ug/L	--	--	2.5	J	1.7	J	1.5	J	3.9	J	2.6	J
Acenaphthylene	ug/L	--	--	0.53	J	0.64	J	0.5	U	0.51	U	0.51	U
Acetophenone	ug/L	--	--	2.2	J	2.3	J	2.3	J	0.51	U	0.51	U
Anthracene	ug/L	22	59	0.85	J	1	J	1.7	J	0.56	U	0.56	U
Atrazine	ug/L	--	--	0.41	U	0.44	U	0.42	U	0.43	U	0.43	U
Benzaldehyde	ug/L	--	--	0.57	U	0.61	U	0.59	U	0.6	U	0.6	U
Benzo(a)anthracene	ug/L	--	10	0.44	U	0.46	U	0.45	U	0.46	U	0.45	U
Benzo(a)pyrene	ug/L	--	20	0.46	U	0.49	U	0.48	U	0.49	U	0.48	U
Benzo(b)fluoranthene	ug/L	--	10	0.33	U	0.35	U	0.34	U	0.35	U	0.34	U
Benzo(ghi)perylene	ug/L	--	--	0.29	U	0.31	U	0.3	U	0.3	U	0.3	U
Benzo(k)fluoranthene	ug/L	--	20	0.42	U	0.44	U	0.43	U	0.44	U	0.43	U
Bis(2-chloroethoxy)methane	ug/L	--	--	1.3	U	1.4	U	1.3	U	1.4	U	1.3	U
Bis(2-chloroethyl)ether	ug/L	--	10	0.49	U	0.52	U	0.5	U	0.51	U	0.51	U
Bis(2-ethylhexyl)phthalate	ug/L	59	118	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
Butyl benzyl phthalate	ug/L	--	24	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Caprolactam	ug/L	--	--	2	U	2.1	U	2	U	2.1	U	2.1	U
Carbazole	ug/L	--	--	0.55	U	0.59	U	0.57	U	0.58	U	0.57	U
Chrysene	ug/L	--	20	0.38	U	0.4	U	0.39	U	0.39	U	0.39	U
Dibenzo(a,h)anthracene	ug/L	--	20	0.37	U	0.39	U	0.38	U	0.39	U	0.38	U
Dibenzofuran	ug/L	--	--	0.57	U	0.6	U	1.2	J	0.59	U	0.59	U
Diethyl phthalate	ug/L	81	203	2.6	U	2.7	U	2.7	U	2.7	U	2.7	U
Dimethyl phthalate	ug/L	19	47	0.45	U	0.47	U	0.46	U	0.47	U	0.46	U
Di-n-butyl phthalate	ug/L	27	57	0.49	U	0.52	U	0.51	U	0.51	U	0.51	U
Di-n-octyl phthalate	ug/L	--	--	0.45	U	0.48	U	0.46	U	0.47	U	0.47	U
Fluoranthene	ug/L	25	68	0.52	U	0.57	J	0.54	U	0.55	U	0.54	U
Fluorene	ug/L	22	59	0.79	J	0.61	U	0.98	J	0.68	J	0.6	U
Hexachlorobenzene	ug/L	--	10	0.46	U	0.49	U	0.47	U	0.48	U	0.48	U
Hexachlorobutadiene	ug/L	20	49	0.4	U	0.42	U	0.41	U	0.42	U	0.41	U

TABLE 4-14

**ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Discharge Limits		ELWS-01		ELWS-02		ELWS-02D		WLWS-01		WLWS-02	
		NJDEP BGR Permit ⁽¹⁾		04/25/08		04/25/08		04/25/08		04/25/08		04/25/08	
		Monthly Average	Daily Maximum	East Lagoon Primary		East Lagoon Primary		East Lagoon Duplicate		West Lagoon Primary		West Lagoon Primary	
Semivolatile Organics (Continued)													
Hexachlorocyclopentadiene	ug/L	--	1800	0.85	U	0.9	U	0.87	U	0.89	U	0.88	U
Hexachloroethane	ug/L	21	54	0.46	U	0.49	U	0.47	U	0.48	U	0.48	U
Indeno(1,2,3-cd)pyrene	ug/L	--	20	0.5	U	0.53	U	0.52	U	0.53	U	0.52	U
Isophorone	ug/L	--	20	0.5	U	0.53	U	0.52	U	0.53	U	0.52	U
Naphthalene	ug/L	--	--	6.6	J	2.3	J	2	J	8.4	J	7.3	J
Nitrobenzene	ug/L	27	69	0.68	U	0.72	U	0.7	U	0.71	U	0.7	U
N-Nitrosodiphenylamine	ug/L	--	20	0.52	U	0.55	U	0.53	U	0.54	U	0.54	U
N-Nitrosodipropylamine	ug/L	--	--	0.63	U	0.67	U	0.65	U	0.66	U	0.65	U
Pentachlorophenol	ug/L	--	30	0.88	U	0.93	U	0.9	U	0.92	U	0.91	U
Phenanthrene	ug/L	22	59	0.85	J	1.1	J	0.9	J	0.61	U	0.61	U
Phenol	ug/L	15	26	24		24		21		22		20	
Pyrene	ug/L	25	67	0.6	U	0.63	U	0.62	U	0.63	U	0.62	U
Polychlorinated Biphenyls (Aroclors)													
Aroclor 1016	ug/L	--	0.05	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Aroclor 1221	ug/L	--	0.05	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Aroclor 1232	ug/L	--	0.05	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Aroclor 1242	ug/L	--	0.05	0.077	U	0.077	U	0.076	U	0.077	U	0.077	U
Aroclor 1248	ug/L	--	0.05	0.095	U	0.095	U	0.093	U	0.094	U	0.095	U
Aroclor 1254	ug/L	--	0.05	0.095	U	0.095	U	0.093	U	0.094	U	0.095	U
Aroclor 1260	ug/L	--	0.05	0.056	U	0.056	U	0.055	U	0.056	U	0.056	U
Aroclor 1262	ug/L	--	0.05	0.086	U	0.086	U	0.084	U	0.085	U	0.086	U
Aroclor 1268	ug/L	--	0.05	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Pesticides													
4,4'-DDD	ug/L	--	0.06	0.008	U	0.008	U	0.0079	U	0.008	U	0.008	U
4,4'-DDE	ug/L	--	0.04	0.007	U	0.007	U	0.0069	U	0.007	U	0.007	U
4,4'-DDT	ug/L	--	0.04	0.014	U	0.014	U	0.014	U	0.014	U	0.014	U
Aldrin	ug/L	--	0.04	0.012	U	0.012	U	0.011	U	0.011	U	0.012	U
alpha-BHC	ug/L	--	0.02	0.016	U	0.016	U	0.015	U	0.016	U	0.016	U
alpha-Chlordane	ug/L	--	0.20	0.012	U	0.012	U	0.011	U	0.012	U	0.012	U
beta-BHC	ug/L	0.46	0.92	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
delta-BHC	ug/L	--	--	0.022	JP	0.047	JP	0.049	J	0.0097	U	0.0098	U
Dieldrin	ug/L	--	0.03	0.0083	U	0.0083	U	0.0082	U	0.0082	U	0.0083	U
Endosulfan I	ug/L	--	0.02	0.0077	U	0.0077	U	0.0076	U	0.0076	U	0.0077	U
Endosulfan II	ug/L	--	0.04	0.016	U	0.016	U	0.015	U	0.016	U	0.016	U

TABLE 4-14

**ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY**

Constituent of Interest	Units	Discharge Limits		ELWS-01		ELWS-02		ELWS-02D		WLWS-01		WLWS-02	
		NJDEP BGR Permit ⁽¹⁾		04/25/08		04/25/08		04/25/08		04/25/08		04/25/08	
		Monthly Average	Daily Maximum	East Lagoon Primary		East Lagoon Primary		East Lagoon Duplicate		West Lagoon Primary		West Lagoon Primary	
Pesticides (Continued)													
Endosulfan sulfate	ug/L	2	4	0.017	U	0.017	U	0.016	U	0.016	U	0.017	U
Endrin	ug/L	--	0.04	0.0094	JP	0.01	JP	0.011	J	0.0079	U	0.018	JP
Endrin aldehyde	ug/L	0.81	1.62	0.013	U	0.013	U	0.012	U	0.012	U	0.013	U
Endrin ketone	ug/L	--	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
gamma-Chlordane	ug/L	--	--	0.0079	U	0.0079	U	0.0077	U	0.0078	U	0.0079	U
Heptachlor	ug/L	--	0.02	0.014	U	0.014	U	0.014	U	0.014	U	0.014	U
Heptachlor epoxide	ug/L	--	0.40	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Lindane	ug/L	--	0.03	0.016	U	0.016	U	0.015	U	0.016	U	0.016	U
Methoxychlor	ug/L	--	--	0.019	U	0.13		0.12		0.019	U	0.019	U
Toxaphene	ug/L	--	1	0.43	U	0.43	U	0.42	U	0.42	U	0.43	U
Metals													
Aluminum	ug/L	--	--	63	BJ	71.2	BJ	61.7	B	45.1	BJ	54.3	BJ
Antimony	ug/L	--	--	2.9	U	2.9	U	2.9	U	2.9	U	2.9	U
Arsenic	ug/L	50	100	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
Barium	ug/L	--	--	15.9	B	14.7	B	15	B	9	B	9.2	B
Beryllium	ug/L	--	--	0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Cadmium	ug/L	50	100	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
Calcium	ug/L	--	--	47500	J	46600	J	47600	J	39300	J	40100	J
Chromium	ug/L	50	100	118		115		118		61		61.2	
Chromium (Hexavalent)	ug/L	--	--	10	U	10	U	10	U	10	U	10	U
Cobalt	ug/L	--	--	1.9	B	1.9	B	1.5	B	0.83	B	0.87	B
Copper	ug/L	50	100	6.7	B	6.5	B	6.6	B	3.5	B	3.7	B
Iron	ug/L	--	--	1240		1280		1300		279		319	
Lead	ug/L	50	100	57.5		56.3		57.7		5.9		7.2	
Magnesium	ug/L	--	--	72900	J	71400	J	72800	J	49900	J	50500	J
Manganese	ug/L	--	--	112		113		115		38.1		39.2	
Mercury	ug/L	--	1	0.24		0.23		0.22		0.074	B	0.085	B
Nickel	ug/L	50	100	17.8	B	17.9	B	18	B	9.8	B	9.6	B
Potassium	ug/L	--	--	2680	B	2580	B	2620	B	1710	B	1710	B
Selenium	ug/L	50	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Silver	ug/L	25	50	0.78	B	0.59	U	0.59	U	0.69	B	0.59	U
Sodium	ug/L	--	--	48100		46600		47200		32600		32800	
Thallium	ug/L	--	--	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U
Vanadium	ug/L	--	--	17.6	B	16.4	B	17.6	B	12.1	B	11.9	B

TABLE 4-14

ANALYTICAL RESULTS
LAGOON SURFACE WATER SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Discharge Limits		ELWS-01		ELWS-02		ELWS-02D		WLWS-01		WLWS-02	
		NJDEP BGR Permit ⁽¹⁾		04/25/08		04/25/08		04/25/08		04/25/08		04/25/08	
		Monthly Average	Daily Maximum	East Lagoon Primary	East Lagoon Primary	East Lagoon Duplicate	West Lagoon Primary	West Lagoon Primary					
Metals (Continued)													
Zinc	ug/L	100	200	6.6	B	7.4	B	6.5	B	7.9	B	3.6	B
Indicator Parameters													
Biochemical Oxygen Demand	mg/L	--	--	78		74.9		69.8		33.1		32	
Total Organic Carbon	mg/L	--	20	138	J	134	J	NA		68.2	J	69.6	J
Chemical Oxygen Demand (COD)	mg/L	--	--	411		397		NA		187		192	
Cyanide	mg/L	100	200	2	B	1.7	U	NA		1.7	U	1.7	U
Ferrous Iron	mg/L	--	--	0.15		0.13		0.18		0.1	U	0.1	U
Oil & Grease (Hexane Extractable)	mg/L	--	--	0.54	U	0.54	U	NA		0.54	U	0.52	U
Residue, filterable	mg/L	--	--	823		888		NA		565		522	
Residue, non-filterable	mg/L	--	--	4	U	4	U	NA		4	U	4	U
Total Alkalinity	mg/L	--	--	213	J	207	J	NA		172	J	174	J
Total Sulfide	mg/L	--	--	1.2	U	1.2	U	NA		1.2	U	1.2	U

Notes:

1. Criteria are as specified in the NJDEP Statewide Final NJPDES General Remediation Clean-up Permit (GRC) dated April 21, 2005. NJPDES Permit No. NJ0155438 P

Potential exceedances of discharge limits are highlighted. Results which exceed both the monthly average and daily maximum are shown in bold, shaded typeface. Results which exceed the monthly average but not the daily maximum are shown in shaded typeface. Results which exceed the daily maximum but not the monthly average (i.e., when a daily maximum limit does not exist) are shown in bold typeface.

Data qualifiers are as follows:

- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
 J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
 J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
 P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
 U - Not detected at the detection limit indicated.
 -- - Not analyzed or criteria unavailable.

TABLE 4-15

ANALYTICAL RESULTS
SOUTH DITCH SOFT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SDWC-1 05/21/08 0.5-1.0 ft Primary		SDWC-2 05/21/08 0.5-1.0 ft Primary		SDWC-3 05/20/08 0.5-1.0 ft Primary		SDWC-4 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Duplicate	
Volatile Organics														
1,1,1-Trichloroethane	mg/Kg	4200	0.25	U	1.7	U	0.15	U	0.0015	U	0.13	U	0.00098	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.28	U	1.9	U	0.16	U	0.0022	U	0.14	U	0.0015	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.26	U	1.8	U	0.18	U	0.0033	U	0.15	U	0.0022	U
1,1,2-Trichloroethane	mg/Kg	6	0.3	U	2.1	U	0.15	U	0.0026	U	0.13	U	0.0017	U
1,1-Dichloroethane	mg/Kg	24	0.24	U	1.7	U	0.14	U	0.0018	U	0.12	U	0.0013	U
1,1-Dichloroethene	mg/Kg	150	0.29	U	2	U	0.17	U	0.0026	U	0.15	U	0.0017	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.48	J	1.8	U	0.15	U	0.16		4.3		0.12	
1,2-Dibromoethane	mg/Kg	0.04	0.25	U	1.8	U	0.15	U	0.0027	U	0.13	U	0.0017	U
1,2-Dichlorobenzene	mg/Kg	59000	20		48		0.18	J	0.04		0.4	J	0.045	
1,2-Dichloroethane	mg/Kg	3	0.27	U	1.9	U	0.16	U	0.0019	U	0.14	U	0.0012	U
1,2-Dichloropropane	mg/Kg	5	0.27	U	1.9	U	0.16	U	0.0017	U	0.14	U	0.0011	U
1,3-Dichlorobenzene	mg/Kg	59000	16		5.9	J	1		0.033		0.22	J	0.042	
1,4-Dichlorobenzene	mg/Kg	13	19		43		1.3		0.047		0.45	J	0.059	
2-Butanone	mg/Kg	44000	0.24	U	1.7	U	0.14	U	0.0027	U	0.12	U	0.0018	U
2-Hexanone	mg/Kg	--	0.19	U	1.3	U	0.12	U	0.0021	U	0.098	U	0.0014	U
4-Methyl-2-pentanone	mg/Kg	--	0.21	U	1.5	U	0.13	U	0.002	U	0.11	U	0.0013	U
Acetone	mg/Kg	--	0.29	U	2	U	0.17	U	0.016	U	0.15	U	0.01	U
Benzene	mg/Kg	5	0.25	U	5.5	J	0.15	U	0.0021	U	0.13	U	0.0014	U
Bromodichloromethane	mg/Kg	3	0.24	U	1.7	U	0.14	U	0.0017	U	0.12	U	0.0011	U
Bromoform	mg/Kg	280	0.25	U	1.7	U	0.15	U	0.0014	U	0.13	U	0.00089	U
Bromomethane	mg/Kg	59	0.31	U	2.2	U	0.18	U	0.0023	U	0.16	U	0.0015	U
Carbon disulfide	mg/Kg	110000	0.3	U	2.1	U	0.18	U	0.0016	U	0.15	U	0.001	U
Carbon tetrachloride	mg/Kg	2	0.22	U	1.5	U	0.13	U	0.0014	U	0.11	U	0.0009	U
Chlorobenzene	mg/Kg	7400	3.7		140		13		0.008	J	0.2	J	0.032	
Chloroethane	mg/Kg	1100	0.35	U	2.4	U	0.21	U	0.0048	U	0.18	U	0.0031	U
Chloroform	mg/Kg	2	0.26	U	1.8	U	0.15	U	0.0018	U	0.13	U	0.0012	U
Chloromethane	mg/Kg	12	0.27	U	1.9	U	0.16	U	0.0026	U	0.14	U	0.0017	U
cis-1,2-Dichloroethene	mg/Kg	560	0.26	U	1.8	U	0.16	U	0.0022	U	0.13	U	0.0014	U
cis-1,3-Dichloropropene	mg/Kg	7	0.22	U	1.5	U	0.13	U	0.0021	U	0.11	U	0.0014	U
Cyclohexane	mg/Kg	--	0.24	U	1.7	U	0.15	U	0.0012	U	0.12	U	0.00075	U
Dibromochloromethane	mg/Kg	8	0.23	U	1.6	U	0.13	U	0.0022	U	0.12	U	0.0014	U
Dibromochloropropane	mg/Kg	--	0.21	U	1.4	U	0.12	U	0.0023	U	0.1	U	0.0015	U
Dichlorodifluoromethane	mg/Kg	230000	0.31	U	2.2	U	0.19	U	0.0021	U	0.16	U	0.0013	U
Ethylbenzene	mg/Kg	110000	0.29	U	2	U	0.17	U	0.002	U	0.15	U	0.0019	J
Isopropylbenzene	mg/Kg	--	0.26	U	1.8	U	0.16	U	0.0021	U	0.13	U	0.0014	U
Methyl acetate	mg/Kg	--	0.26	U	1.8	U	0.15	U	0.0028	U	0.13	U	0.0018	U
Methylcyclohexane	mg/Kg	--	0.27	U	1.9	U	0.16	U	0.0023	U	0.14	U	0.0015	U
Methylene chloride	mg/Kg	97	0.19	U	1.3	U	0.11	U	0.0021	U	0.095	U	0.0014	U
Methyltert-butylether	mg/Kg	320	0.23	U	1.6	U	0.13	U	0.0023	U	0.11	U	0.0015	U
Styrene	mg/Kg	260	0.27	U	1.9	U	0.16	U	0.0017	U	0.14	U	0.0011	U
Tetrachloroethene	mg/Kg	5	0.32	U	2.2	U	0.19	U	0.0021	U	0.16	U	0.0014	U
Toluene	mg/Kg	91000	0.19	U	1.3	U	0.12	U	0.0023	U	0.098	U	0.0015	U
trans-1,2-Dichloroethene	mg/Kg	720	0.28	U	2	U	0.17	U	0.0019	U	0.14	U	0.0012	U
trans-1,3-Dichloropropene	mg/Kg	7	0.21	U	1.5	U	0.13	U	0.0019	U	0.11	U	0.0012	U
Trichloroethene	mg/Kg	20	0.27	U	1.9	U	0.16	U	0.002	U	0.14	U	0.0013	U
Trichlorofluoromethane	mg/Kg	340000	0.4	U	2.8	U	0.24	U	0.0029	U	0.2	U	0.0019	U
Vinyl chloride	mg/Kg	2	0.27	U	1.9	U	0.16	U	0.0015	U	0.14	U	0.00095	U
Xylene (total)	mg/Kg	170000	0.86	U	6	U	0.51	U	0.007	U	0.44	U	0.0078	J
Semivolatile Organics														
1,1'-Biphenyl	mg/Kg	34000	3300	E	0.67	U	0.053	U	0.15	J	0.065	U	0.21	J
2,2'-oxybis(1-chloropropane)	mg/Kg	--	2.4	U	0.73	U	0.057	U	0.044	U	0.071	U	0.046	U
2,4,5-Trichlorophenol	mg/Kg	68000	3.4	U	1	U	0.079	U	0.061	U	0.097	U	0.063	U
2,4,6-Trichlorophenol	mg/Kg	74	3.3	U	0.99	U	0.077	U	0.06	U	0.095	U	0.061	U
2,4-Dichlorophenol	mg/Kg	2100	1.2	U	0.36	U	0.028	U	0.022	U	0.035	U	0.023	U
2,4-Dimethylphenol	mg/Kg	14000	1.7	U	0.53	U	0.041	U	0.032	U	0.051	U	0.047	J
2,4-Dinitrophenol	mg/Kg	1400	48	U	14	U	1.1	U	0.87	U	1.4	U	0.9	U
2,4-Dinitrotoluene	mg/Kg	3	2.1	U	0.63	U	0.049	U	0.038	U	0.061	U	0.039	U
2,6-Dinitrotoluene	mg/Kg	3	2.6	U	0.79	U	0.061	U	0.047	U	0.076	U	0.049	U
2-Chloronaphthalene	mg/Kg	--	2.3	U	0.71	U	0.055	U	0.043	U	0.068	U	0.044	U
2-Chlorophenol	mg/Kg	2200	2	U	0.62	U	0.048	U	0.037	U	0.059	U	0.038	U
2-Methylnaphthalene	mg/Kg	2400	5	J	0.68	U	0.2	J	0.59	J	0.14	J	0.87	
2-Methylphenol	mg/Kg	3400	2.5	U	0.77	U	0.06	U	0.046	U	0.074	U	0.048	U
2-Nitroaniline	mg/Kg	23000	2.4	U	0.74	U	0.057	U	0.044	U	0.071	U	0.046	U
2-Nitrophenol	mg/Kg	--	3.2	U	0.97	U	0.076	U	0.059	U	0.094	U	0.061	U
3,3'-Dichlorobenzidine	mg/Kg	4	9.1	U	2.8	U	0.21	U	0.17	U	0.26	U	0.17	U
3-Nitroaniline	mg/Kg	--	3.5	U	1	U	0.082	U	0.063	U	0.1	U	0.065	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	29	U	8.6	U	0.67	U	0.52	U	0.83	U	0.54	U
4-Bromophenylphenyl ether	mg/Kg	--	1.8	U	0.55	U	0.043	U	0.033	U	0.053	U	0.034	U
4-Chloro-3-methylphenol	mg/Kg	--	2.5	U	0.75	U	0.058	U	0.045	U	0.072	U	0.046	U
4-Chloroaniline	mg/Kg	--	3.5	U	1.1	U	0.082	U	0.064	U	0.1	U	0.066	U
4-Chlorophenyl phenyl ether	mg/Kg	--	2	U	0.61	U	0.047	U	0.037	U	0.058	U	0.038	U
4-Methylphenol	mg/Kg	340	2.5	U	0.77	U	0.06	U	0.046	U	0.28	J	0.048	U
4-Nitroaniline	mg/Kg	--	1.7	U	0.51	U	0.04	U	0.031	U	0.049	U	0.032	U
4-Nitrophenol	mg/Kg	--	3.2	U	0.95	U	0.074	U	0.057	U	0.092	U	0.059	U
Acenaphthene	mg/Kg	37000	2.1	U	4.8	J	0.56	J	0.52	J	0.093	J	0.73	J
Acenaphthylene	mg/Kg	300000	2.4	U	1.5	J	0.3	J	0.16	J	0.17	J	0.29	J
Acetophenone	mg/Kg	5	2.5	U	0.74	U	0.058	U	0.045	U	0.071	U	0.046	U
Anthracene	mg/Kg	30000	13	J	19		0.2							

TABLE 4-15

ANALYTICAL RESULTS
SOUTH DITCH SOFT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SDWC-1 05/21/08 0.5-1.0 ft Primary		SDWC-2 05/21/08 0.5-1.0 ft Primary		SDWC-3 05/20/08 0.5-1.0 ft Primary		SDWC-4 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Duplicate	
Semivolatile Organics (Continued)														
Bis(2-chloroethoxy)methane	mg/Kg	--	1.9	U	0.57	U	0.044	U	0.034	U	0.055	U	0.035	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.91	U	0.28	U	0.021	U	0.017	U	0.026	U	0.017	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	3.1	U	0.94	U	1.1		0.057	U	0.09	U	0.058	U
Butyl benzyl phthalate	mg/Kg	14000	3.3	U	0.98	U	0.077	U	0.059	U	0.094	U	0.061	U
Caprolactam	mg/Kg	340000	7.7	U	2.3	U	0.18	U	0.14	U	0.22	U	0.14	U
Carbazole	mg/Kg	96	7.2	J	3.6	J	0.039	U	0.08	J	0.088	J	0.13	J
Chrysene	mg/Kg	230	24	J	39		1.1		0.43	J	0.37	J	0.63	J
Dibenzo(a,h)anthracene	mg/Kg	0.2	2.9	J	6.1	J	0.39	J	0.084	J	0.075	U	0.074	J
Dibenzofuran	mg/Kg	--	49		3.3	J	0.3	J	0.35	J	0.15	J	0.53	J
Diethyl phthalate	mg/Kg	550000	3.6	U	1.1	U	0.085	U	0.066	U	0.1	U	0.068	U
Dimethyl phthalate	mg/Kg	--	2.3	U	0.69	U	0.054	U	0.042	U	0.067	U	0.043	U
Di-n-butyl phthalate	mg/Kg	68000	6.7	U	2	U	0.16	U	0.12	U	0.19	U	0.13	U
Di-n-octyl phthalate	mg/Kg	27000	2.8	U	0.85	U	0.066	U	0.051	U	0.082	U	0.053	U
Fluoranthene	mg/Kg	24000	56		87		1.4		0.65	J	0.74	J	1.1	
Fluorene	mg/Kg	24000	8.7	J	5.1	J	0.22	J	0.24	J	0.057	U	0.36	J
Hexachlorobenzene	mg/Kg	1	2.4	U	0.74	U	0.057	U	0.044	U	0.071	U	0.046	U
Hexachlorobutadiene	mg/Kg	25	2.5	U	0.75	U	0.058	U	0.045	U	0.072	U	0.047	U
Hexachlorocyclopentadiene	mg/Kg	110	1.9	U	0.56	U	0.044	U	0.034	U	0.054	U	0.035	U
Hexachloroethane	mg/Kg	140	1.8	U	0.55	U	0.043	U	0.033	U	0.053	U	0.034	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	14	J	19		1.3		0.34	J	0.34	J	0.56	J
Isophorone	mg/Kg	2000	2.3	U	0.68	U	0.053	U	0.041	U	0.065	U	0.042	U
Naphthalene	mg/Kg	17	38	J	0.59	U	0.57	J	0.93		0.44	J	1.4	
Nitrobenzene	mg/Kg	340	1	U	0.3	U	0.024	U	0.018	U	0.029	U	0.019	U
N-Nitrosodiphenylamine	mg/Kg	390	2.2	U	0.66	U	0.052	U	0.04	U	0.064	U	0.041	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.99	U	0.3	U	0.023	U	0.018	U	0.029	U	0.019	U
Pentachlorophenol	mg/Kg	10	3	U	0.91	U	0.071	U	0.055	U	0.088	U	0.057	U
Phenanthrene	mg/Kg	300000	53		57		0.78	J	0.56	J	0.6	J	0.86	
Phenol	mg/Kg	210000	2.4	U	0.74	U	0.058	U	0.045	U	0.45	J	0.046	U
Pyrene	mg/Kg	18000	49		79		1.2		0.6	J	0.62	J	0.94	
Polychlorinated Dioxins and Furans														
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	1.2		0.17		0.14		0.13		0.051		0.24	
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	14	B	10	B	11	B	18	B	2.4	B	34	B
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.48		0.33		0.41		0.53		0.073		1	
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.034	J	0.008	J	0.012	J	0.007	QJ	0.0032	J	0.016	
1,2,3,4,7,8-HxCDF	ug/Kg	--	4.6	B	2.9	QB	4.9	QB	6.2	QB	0.84	QB	13	B
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.073	J	0.021		0.025		0.032		0.008	J	0.063	
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.78	B	0.45	B	0.8	B	0.87	B	0.12	B	1.7	B
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.033	J	0.0086	J	0.011	J	0.0068	J	0.0034	J	0.015	
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.12	U	0.0069	J	0.014	J	0.11	U	0.018	U	0.11	U
1,2,3,7,8-PCDD	ug/Kg	--	0.035	J	0.01	J	0.011	J	0.0098	J	0.0051	J	0.021	
1,2,3,7,8-PCDF	ug/Kg	--	0.15		0.088	Q	0.21		0.079		0.015	J	0.17	Q
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.28		0.18		0.24		0.3		0.046		0.57	
2,3,4,7,8-PCDF	ug/Kg	--	0.4		0.22	Q	0.44	Q	0.48		0.068		1	
2,3,7,8-TCDD	ug/Kg	--	0.03	Q	0.007	Q	0.0058		0.0033		0.0035	QJ	0.0071	
2,3,7,8-TCDF	ug/Kg	--	0.066	Q	0.089		0.049		0.019		0.0084		0.047	
OCDD	ug/Kg	--	15	B	2	B	0.84	B	3.2	B	0.48	B	1.8	B
OCDF	ug/Kg	--	25	B	20	BE	16	BE	40	B	4.2	B	79	B
Total HpCDD	ug/Kg	--	2.6	B	0.39	B	0.27	B	0.27	B	0.11	B	0.5	B
Total HpCDF	ug/Kg	--	17	QB	12	QB	13	QB	21	QB	2.7	QB	39	QB
Total HxCDD	ug/Kg	--	0.91	Q	0.2	Q	0.17	Q	0.19	Q	0.056	QJ	0.41	Q
Total HxCDF	ug/Kg	--	11	QB	6.9	QB	11	QB	13	B	1.8	QB	27	QB
Total PeCDD	ug/Kg	--	1	Q	0.2	Q	0.21	Q	0.37	Q	0.17	Q	0.84	Q
Total PeCDF	ug/Kg	--	5.7	Q	3.4	Q	5.6	Q	5.3	Q	0.85	Q	11	Q
Total TCDD	ug/Kg	--	0.58	Q	0.2	Q	0.14	Q	0.2	Q	0.094	Q	0.42	Q
Total TCDF	ug/Kg	--	5.1	Q	2.5	Q	4	Q	3.1	QE	0.61	Q	6.4	QE
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)														
1,2,3,4,6,7,8-HpCDD	0.01	--	1.2E-02		1.7E-03		1.4E-03		1.3E-03		5.1E-04		2.4E-03	
1,2,3,4,6,7,8-HpCDF	0.01	--	1.4E-01		1.0E-01		1.1E-01		1.8E-01		2.4E-02		3.4E-01	
1,2,3,4,7,8,9-HpCDF	0.01	--	7.3E-04		2.1E-04		2.5E-04		3.2E-04		8.0E-05		6.3E-04	
1,2,3,4,7,8-HxCDD	0.10	--	4.8E-02		3.3E-02		4.1E-02		5.3E-02		7.3E-03		1.0E-01	
1,2,3,4,7,8-HxCDF	0.10	--	3.4E-03		8.0E-04		1.2E-03		--		3.2E-04		1.6E-03	
1,2,3,6,7,8-HxCDD	0.10	--	4.6E-01		--		--		--		--		1.3E+00	
1,2,3,6,7,8-HxCDF	0.10	--	7.8E-02		4.5E-02		8.0E-02		8.7E-02		1.2E-02		1.7E-01	
1,2,3,7,8,9-HxCDD	0.10	--	3.3E-03		8.6E-04		1.1E-03		6.8E-04		3.4E-04		1.5E-03	
1,2,3,7,8,9-HxCDF	0.10	--	--		6.9E-04		1.4E-03		--		--		--	
1,2,3,7,8-PCDD	1.00	--	3.5E-02		1.0E-02		1.1E-02		9.8E-03		5.1E-03		2.1E-02	
1,2,3,7,8-PCDF	0.05	--	7.5E-03		--		1.1E-02		4.0E-03		7.5E-04		--	
2,3,4,6,7,8-HxCDF	0.10	--	2.8E-02		1.8E-02		2.4E-02		3.0E-02		4.6E-03		5.7E-02	
2,3,4,7,8-PCDF	0.50	--	2.0E-01		--		--		2.4E-01		3.4E-02		5.0E-01	
2,3,7,8-TCDD	1.00	--	--		--		5.8E-03		3.3E-03		--		7.1E-03	
2,3,7,8-TCDF	0.10	--	--		8.9E-03		4.9E-03		1.9E-03		8.4E-04		4.7E-03	
OCDD	0.0001	--	1.5E-03		2.0E-04		8.4E-05		3.2E-04		4.8E-05		1.8E-04	
OCDF	0.0001	--	2.5E-03		2.0E-03		1.6E-03		4.0E-03		4.2E-04		7.9E-03	
Total 2,3,7,8-TCDD Equivalents ⁽²⁾	ug/Kg	1	1.0E+00		2.2E-01		2.9E-01		6.2E-01		9.0E-02		2.5E+00	
Polychlorinated Biphenyls (Aroclors)														
Aroclor 1016	mg/Kg	1	2.5		0.33	PG	0.0072	U	0.0056	U	0.0088	U	0.0057	U
Aroclor 1221	mg/Kg	1	0.016	U	0.0078	U	0.0092	U	0.0071	U	0.011	U	0.0073	U
Aroclor 1232	mg/Kg	1	0.014	U	0.007	U	0.25		0.16		0.094	PG	0.25	
Aroclor 1242	mg/Kg	1	0.013	U	0.0067	U	0.0079	U	0.0061	U	0.0096	U	0.0062	U
Aroclor 1248	mg/Kg	1	0.0077	U	0.0039	U	0.0046	U	0.0035	U	0.0056	U	0.0036	U
Aroclor 1254	mg/Kg	1	3.3		0.0058	U	0.0069	U	0.0053	U	0.0084	U	0.0054	U
Aroclor 1260	mg/Kg	1	0.012	U	2.2		0.1		0.033	J	0.023	J	0.057	
Aroclor 1262	mg/Kg	1	0.018	U	0.009	U	0.011	U	0.0082	U	0.013	U	0.0084	U
Aroclor 1268	mg/Kg	1	0.01	U	0.0053	U	0.0062	U	0.0048	U	0.0076	U	0.0049	U

TABLE 4-15

ANALYTICAL RESULTS
SOUTH DITCH SOFT SOIL SAMPLES
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	SDWC-1 05/21/08 0.5-1.0 ft Primary		SDWC-2 05/21/08 0.5-1.0 ft Primary		SDWC-3 05/20/08 0.5-1.0 ft Primary		SDWC-4 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Primary		SDWC-5 05/20/08 0.5-1.0 ft Duplicate	
Metals														
Aluminum	mg/Kg	--	28600	J	5330	J	11300	J	1710	J	12500	J	1750	J
Antimony	mg/Kg	450	27.2		5.4		2.2	B	0.21	U	0.33	U	0.21	U
Arsenic	mg/Kg	19	17.9		10.1		7.8		2.8		7.4		3.2	
Barium	mg/Kg	59000	600	J	126	J	265	J	203	J	342	J	224	J
Beryllium	mg/Kg	140	0.52	B	0.3	B	0.09	U	0.069	U	0.43	B	0.071	U
Cadmium	mg/Kg	78	3.9		1.2		2		0.42	B	0.86	B	0.39	B
Calcium	mg/Kg	--	84200		7270		166000		268000		154000		291000	
Chromium ⁽³⁾	mg/Kg	120000	10400		1020		8700		1030		4920		999	
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	0.4	U	16.9		29.5		13		24.3		9.2	
Cobalt	mg/Kg	590	24.2	B	5.3	B	15.8		6	B	15.7	B	6.1	B
Copper	mg/Kg	45000	213		103		88.8		66.8		24.2		67.8	
Iron	mg/Kg	--	71200	J	36100	J	27000	J	7870	J	54400	J	7810	J
Lead	mg/Kg	800	8440	J	750	J	7170	J	214	J	86	J	220	J
Magnesium	mg/Kg	--	6010		2470		5710		18500		71700		19900	
Manganese	mg/Kg	5900	596		412		631		395		597		432	
Mercury	mg/Kg	65	2.5		1.1		1.6		3.1		0.88		3.6	
Nickel	mg/Kg	23000	107		19.3		87.5		113		56.6		118	
Potassium	mg/Kg	--	755	B	564	B	276	B	127	B	366	B	134	B
Selenium	mg/Kg	5700	2.2	B	0.78	B	0.83	U	0.65	U	1	U	0.66	U
Silver	mg/Kg	5700	2.4		0.6	B	1.1	B	0.3	B	0.72	B	0.31	B
Sodium	mg/Kg	--	3660		457	B	1780		1090	B	2000		1210	
Thallium	mg/Kg	79	4.5	B	0.79	U	2.5	B	0.72	U	1.6	B	0.74	U
Vanadium	mg/Kg	1100	375		60.3		423		56.1		118		58.3	
Zinc	mg/Kg	110000	3840		502		933		133		162		126	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾														
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--	
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	--	
1,4-Dichlorobenzene	mg/L	7.5	1		0.69		0.0046	U	0.0054	J	0.0046	U	--	
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	--	
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	--	
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	--	
2-Butanone	mg/L	200	0.033	U	0.029	U	0.029	U	0.029	U	0.029	U	--	
Benzene	mg/L	0.5	0.037	U	0.069	J	0.033	U	0.033	U	0.033	U	--	
Carbon Tetrachloride	mg/L	0.5	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	--	
Chlorobenzene	mg/L	100	0.13	J	2.8		0.18	J	0.028	U	0.028	U	--	
Chloroform	mg/L	6	0.029	U	0.029	U	0.031	U	0.031	U	0.031	U	--	
Cresols	mg/L	200	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.015	J	--	
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	--	
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	--	
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	--	
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	--	
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	--	
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	--	
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	--	
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--	
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	--	
Arsenic	mg/L	5	0.33	B	0.19	BJ	0.2	B	0.14	B	0.16	B	--	
Barium	mg/L	100	0.45	BJ	0.97	B	1.6	B	1	B	0.55	B	--	
Cadmium	mg/L	1	0.0012	U	0.0012	U	0.0012	U	0.0012	U	0.0012	U	--	
Chromium	mg/L	5	5.9		0.081	BE	0.025	BJ	0.06	BJ	0.014	BJ	--	
Lead	mg/L	5	0.13	B	0.95	E	6.6		0.028	B	0.016	B	--	
Mercury	mg/L	0.2	0.000076	B	0.00006	B	0.000055	U	0.000055	U	0.000055	U	--	
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	--	
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	--	
RCRA Characteristics and Indicators														
Corrosivity (pH)	SU	2<pH<12.5	6.68		7.3		7.99		11.83		12.1		11.8	
Cyanide (Reactivity)	mg/Kg	23000	11.6	J	2	J	1.8		2.2		5		1.7	
Total Sulfide (Reactivity)	mg/Kg	--	12900		1220		3160		144		1620		--	
Ignitability	none	--	No		No		No		No		No		No	
Oxidation Reduction Potential	mV	--	107		97		177		139		18		334	
Percent Solids	%	--	20.4		40.7		34.4		44.5		28.2		43.6	

Notes:

- Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
- The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
- Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup, (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
- Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Organic results. Analyte detected in associated method blank
- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- E - Organic results. Result is an estimated concentration. Outside linear calibration range.
- E - Inorganic results. Serial dilution was outside quality control limits for this analyte.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
- Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration. Analyte may be present below the quantitation limit indicated.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Volatile Organics																								
1,1,1-Trichloroethane	mg/Kg	4200	0.0018	U	0.11	U	0.0076	U	0.00097	U	0.0014	U	0.0012	U	0.076	U	0.0018	U	0.007	U	0.0017	U	0.0022	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.002	U	0.13	U	0.0085	U	0.0011	U	0.0016	U	0.0014	U	0.085	U	0.002	U	0.0078	U	0.0019	U	0.0024	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.0018	U	0.12	U	0.0092	U	0.0012	U	0.0017	U	0.0015	U	0.092	U	0.0021	U	0.0085	U	0.0021	U	0.0026	U
1,1,2-Trichloroethane	mg/Kg	6	0.0021	U	0.14	U	0.008	U	0.001	U	0.0015	U	0.0013	U	0.08	U	0.0018	U	0.0074	U	0.0018	U	0.0023	U
1,1-Dichloroethane	mg/Kg	24	0.0017	U	0.11	U	0.0073	U	0.00093	U	0.0014	U	0.0012	U	0.073	U	0.0017	U	0.0067	U	0.0017	U	0.0021	U
1,1-Dichloroethene	mg/Kg	150	0.002	U	0.13	U	0.0088	U	0.0011	U	0.0016	U	0.0014	U	0.088	U	0.002	U	0.0081	U	0.002	U	0.0025	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.0018	U	0.11	U	0.0077	U	0.00099	U	0.0014	U	0.0013	U	0.078	U	0.0018	U	0.0071	U	0.0018	U	0.0022	U
1,2-Dibromoethane	mg/Kg	0.04	0.0018	U	0.12	U	0.0078	U	0.00099	U	0.0014	U	0.0013	U	0.078	U	0.0018	U	0.0072	U	0.0018	U	0.0022	U
1,2-Dichlorobenzene	mg/Kg	59000	0.0019	U	0.12	U	0.013	J	0.001	U	0.0015	U	0.0013	U	0.083	U	0.0019	U	0.0076	U	0.0019	U	0.0023	U
1,2-Dichloroethane	mg/Kg	3	0.0019	U	0.12	U	0.0082	U	0.001	U	0.0015	U	0.0013	U	0.082	U	0.0019	U	0.0075	U	0.0019	U	0.0023	U
1,2-Dichloropropane	mg/Kg	5	0.0019	U	0.12	U	0.0083	U	0.0011	U	0.0015	U	0.0014	U	0.083	U	0.0019	U	0.0077	U	0.0019	U	0.0024	U
1,3-Dichlorobenzene	mg/Kg	59000	0.0059	J	0.12	U	0.024	J	0.001	U	0.0015	U	0.0013	U	0.31	J	0.0038	J	0.014	J	0.0018	U	0.0022	U
1,4-Dichlorobenzene	mg/Kg	13	0.021		0.23	J	0.038		0.0011	U	0.0015	U	0.0014	U	2.2		0.027		0.11		0.0019	U	0.0024	U
2-Butanone	mg/Kg	44000	0.016		0.11	U	0.054		0.01		0.0013	U	0.0012	U	0.073	U	0.0067	J	0.011	J	0.0017	U	0.0021	U
2-Hexanone	mg/Kg	--	0.0014	U	0.088	U	0.0059	U	0.00076	U	0.0011	U	0.00097	U	0.059	U	0.0014	U	0.0055	U	0.0013	U	0.0017	U
4-Methyl-2-pentanone	mg/Kg	--	0.0015	U	0.097	U	0.0065	U	0.00083	U	0.0012	U	0.0011	U	0.065	U	0.0015	U	0.006	U	0.0015	U	0.0019	U
Acetone	mg/Kg	--	0.082		0.13	U	0.24		0.051		0.007	U	0.0061	U	0.09	U	0.029	J	0.045	J	0.0085	U	0.011	J
Benzene	mg/Kg	5	0.0018	U	0.12	U	0.0078	U	0.00099	U	0.0014	U	0.0013	U	0.078	U	0.0018	U	0.0072	U	0.0018	U	0.0022	U
Bromodichloromethane	mg/Kg	3	0.0017	U	0.11	U	0.0073	U	0.00093	U	0.0014	U	0.0012	U	0.073	U	0.0017	U	0.0067	U	0.0017	U	0.0021	U
Bromoform	mg/Kg	280	0.0018	U	0.11	U	0.0076	U	0.00097	U	0.0014	U	0.0012	U	0.076	U	0.0018	U	0.007	U	0.0017	U	0.0022	U
Bromomethane	mg/Kg	59	0.0022	U	0.14	U	0.0095	U	0.0012	U	0.0018	U	0.0015	U	0.095	U	0.0022	U	0.0087	U	0.0022	U	0.0027	U
Carbon disulfide	mg/Kg	110000	0.0037	J	0.14	U	0.0092	U	0.002	J	0.0017	U	0.0015	U	0.092	U	0.0021	U	0.0085	U	0.0021	U	0.0091	J
Carbon tetrachloride	mg/Kg	2	0.0015	U	0.099	U	0.0067	U	0.00085	U	0.0012	U	0.0011	U	0.067	U	0.0015	U	0.0062	U	0.0015	U	0.0019	U
Chlorobenzene	mg/Kg	7400	0.0019	U	1.5		0.0083	U	0.0011	U	0.0015	U	0.0014	U	0.23	J	0.0019	U	0.0077	U	0.0019	U	0.0024	U
Chloroethane	mg/Kg	1100	0.0025	U	0.16	U	0.011	U	0.0014	U	0.002	U	0.0018	U	0.11	U	0.0025	U	0.0099	U	0.0024	U	0.0031	U
Chloroform	mg/Kg	2	0.0018	U	0.12	U	0.0079	U	0.001	U	0.0015	U	0.0013	U	0.079	U	0.0018	U	0.0073	U	0.0018	U	0.0023	U
Chloromethane	mg/Kg	12	0.0019	U	0.12	U	0.0083	U	0.0011	U	0.0015	U	0.0014	U	0.083	U	0.0019	U	0.0077	U	0.0019	U	0.0024	U
cis-1,2-Dichloroethene	mg/Kg	560	0.0019	U	0.12	U	0.0081	U	0.001	U	0.0015	U	0.0013	U	0.081	U	0.0019	U	0.0074	U	0.0018	U	0.0023	U
cis-1,3-Dichloropropene	mg/Kg	7	0.0016	U	0.1	U	0.0067	U	0.00086	U	0.0012	U	0.0011	U	0.067	U	0.0016	U	0.0062	U	0.0015	U	0.0019	U
Cyclohexane	mg/Kg	--	0.0017	U	0.11	U	0.0075	U	0.00095	U	0.0014	U	0.0012	U	0.075	U	0.0017	U	0.0069	U	0.0017	U	0.0021	U
Dibromochloromethane	mg/Kg	8	0.0016	U	0.1	U	0.0069	U	0.00088	U	0.0013	U	0.0011	U	0.07	U	0.0016	U	0.0064	U	0.0016	U	0.002	U
Dibromochloropropane	mg/Kg	--	0.0015	U	0.094	U	0.0063	U	0.0008	U	0.0012	U	0.001	U	0.063	U	0.0015	U	0.0058	U	0.0014	U	0.0018	U
Dichlorodifluoromethane	mg/Kg	230000	0.0022	U	0.14	U	0.0096	U	0.0012	U	0.0018	U	0.0016	U	0.096	U	0.0022	U	0.0088	U	0.0022	U	0.0027	U
Ethylbenzene	mg/Kg	110000	0.002	U	0.13	U	0.0088	U	0.0011	U	0.0016	U	0.0014	U	0.089	U	0.002	U	0.0082	U	0.002	U	0.0025	U
Isopropylbenzene	mg/Kg	--	0.0019	U	0.12	U	0.008	U	0.001	U	0.0015	U	0.0013	U	0.08	U	0.0019	U	0.0074	U	0.0018	U	0.0023	U
Methyl acetate	mg/Kg	--	0.0018	U	0.12	U	0.0079	U	0.001	U	0.0015	U	0.0013	U	0.08	U	0.0018	U	0.0073	U	0.0018	U	0.0023	U
Methylcyclohexane	mg/Kg	--	0.0019	U	0.12	U	0.0084	U	0.0011	U	0.0016	U	0.0014	U	0.084	U	0.0019	U	0.0077	U	0.0019	U	0.0024	U
Methylene chloride	mg/Kg	97	0.0018	J	0.085	U	0.0095	B	0.00097	B	0.0024	B	0.0012	J	0.058	U	0.0022	B	0.0058	B	0.0013	U	0.0016	U
Methyltert-butylether	mg/Kg	320	0.0016	U	0.1	U	0.0069	U	0.00088	U	0.0013	U	0.0011	U	0.069	U	0.0016	U	0.0064	U	0.0016	U	0.002	U
Styrene	mg/Kg	260	0.0019	U	0.12	U	0.0083	U	0.0011	U	0.0015	U	0.0014	U	0.084	U	0.0019	U	0.0077	U	0.0019	U	0.0024	U
Tetrachloroethene	mg/Kg	5	0.0022	U	0.14	U	0.0097	U	0.0012	U	0.0018	U	0.0016	U	0.098	U	0.0022	U	0.009	U	0.0022	U	0.0028	U
Toluene	mg/Kg	91000	0.0014	U	0.088	U	0.0059	U	0.00076															

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Semivolatile Organics																								
1,1'-Biphenyl	mg/Kg	34000	0.095	U	0.56	J	0.38	J	0.063	U	0.073	J	0.034	J	0.056	J	0.11	J	0.13	U	0.024	U	0.041	U
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.1	U	0.08	U	0.032	U	0.069	U	0.029	U	0.028	U	0.03	U	0.039	U	0.14	U	0.026	U	0.045	U
2,4,5-Trichlorophenol	mg/Kg	68000	0.14	U	0.11	U	0.044	U	0.095	U	0.04	U	0.039	U	0.042	U	0.053	U	0.19	U	0.035	U	0.062	U
2,4,6-Trichlorophenol	mg/Kg	74	0.14	U	0.11	U	0.043	U	0.093	U	0.039	U	0.038	U	0.041	U	0.052	U	0.19	U	0.035	U	0.06	U
2,4-Dichlorophenol	mg/Kg	2100	0.051	U	0.04	U	0.016	U	0.034	U	0.014	U	0.014	U	0.015	U	0.019	U	0.069	U	0.013	U	0.022	U
2,4-Dimethylphenol	mg/Kg	14000	0.074	U	0.057	U	0.03	J	0.18	J	0.021	U	0.024	J	0.056	J	0.028	U	0.099	U	0.018	U	0.15	J
2,4-Dinitrophenol	mg/Kg	1400	2	U	1.6	U	0.64	U	1.4	U	0.57	U	0.56	U	0.6	U	0.76	U	2.7	U	0.51	U	0.88	U
2,4-Dinitrotoluene	mg/Kg	3	0.089	U	0.069	U	0.028	U	0.059	U	0.025	U	0.025	U	0.026	U	0.033	U	0.12	U	0.022	U	0.039	U
2,6-Dinitrotoluene	mg/Kg	3	0.11	U	0.086	U	0.035	U	0.074	U	0.031	U	0.031	U	0.033	U	0.042	U	0.15	U	0.028	U	0.048	U
2-Chloronaphthalene	mg/Kg	--	0.099	U	0.077	U	0.031	U	0.066	U	0.028	U	0.027	U	0.029	U	0.037	U	0.13	U	0.025	U	0.043	U
2-Chlorophenol	mg/Kg	2200	0.086	U	0.067	U	0.027	U	0.058	U	0.024	U	0.024	U	0.026	U	0.032	U	0.12	U	0.022	U	0.038	U
2-Methylnaphthalene	mg/Kg	2400	0.15	J	7.3		1.4		0.07	J	0.14	J	0.073	J	0.29	J	0.48	J	0.13	U	0.03	J	0.041	U
2-Methylphenol	mg/Kg	3400	0.11	U	0.083	U	0.034	U	0.072	U	0.03	U	0.03	U	0.032	U	0.04	U	1	J	0.027	U	0.047	U
2-Nitroaniline	mg/Kg	23000	0.1	U	0.08	U	0.032	U	0.069	U	0.029	U	0.029	U	0.031	U	0.039	U	0.14	U	0.026	U	0.045	U
2-Nitrophenol	mg/Kg	--	0.14	U	0.11	U	0.043	U	0.091	U	0.038	U	0.038	U	0.04	U	0.051	U	0.18	U	0.034	U	0.059	U
3,3'-Dichlorobenzidine	mg/Kg	4	0.39	U	0.3	U	0.12	U	0.26	U	0.11	U	0.11	U	0.11	U	0.15	U	0.52	U	0.096	U	0.17	U
3-Nitroaniline	mg/Kg	--	0.15	U	0.11	U	0.046	U	0.099	U	0.041	U	0.041	U	0.044	U	0.055	U	0.2	U	0.037	U	0.064	U
4,6-Dinitro-2-methylphenol	mg/Kg	68	1.2	U	0.94	U	0.38	U	0.81	U	0.34	U	0.33	U	0.36	U	0.46	U	1.6	U	0.3	U	0.53	U
4-Bromophenylphenyl ether	mg/Kg	--	0.077	U	0.06	U	0.024	U	0.051	U	0.022	U	0.021	U	0.023	U	0.029	U	0.1	U	0.019	U	0.033	U
4-Chloro-3-methylphenol	mg/Kg	--	0.1	U	0.081	U	0.033	U	0.07	U	0.029	U	0.029	U	0.031	U	0.039	U	0.14	U	0.026	U	0.045	U
4-Chloroaniline	mg/Kg	--	0.15	U	0.11	U	0.046	U	0.099	U	0.041	U	0.041	U	0.044	U	0.056	U	0.2	U	0.037	U	0.064	U
4-Chlorophenyl phenyl ether	mg/Kg	--	0.085	U	0.066	U	0.027	U	0.057	U	0.024	U	0.023	U	0.025	U	0.032	U	0.11	U	0.021	U	0.037	U
4-Methylphenol	mg/Kg	340	0.11	U	0.083	U	0.14	J	0.072	U	0.033	J	0.041	J	0.062	J	0.04	U	0.14	U	0.027	U	0.047	U
4-Nitroaniline	mg/Kg	--	0.072	U	0.056	U	0.023	U	0.048	U	0.02	U	0.02	U	0.021	U	0.027	U	0.097	U	0.018	U	0.031	U
4-Nitrophenol	mg/Kg	--	0.13	U	0.1	U	0.042	U	0.089	U	0.037	U	0.037	U	0.04	U	0.05	U	0.18	U	0.033	U	0.058	U
Acenaphthene	mg/Kg	37000	0.28	J	4.1		0.99		0.21	J	0.51		0.059	J	0.68		0.78		0.16	J	0.025	J	0.06	J
Acenaphthylene	mg/Kg	300000	0.73	J	2.1		1.5		0.17	J	0.48		0.31	J	0.29	J	1.5		0.46	J	0.089	J	0.073	J
Acetophenone	mg/Kg	5	0.1	U	0.081	U	0.033	U	0.07	U	0.029	U	0.029	U	0.031	U	0.039	U	0.14	U	0.026	U	0.045	U
Anthracene	mg/Kg	30000	1.2	J	4.5		1.5		0.27	J	0.63		0.23	J	1.9		2.1		0.4	J	0.077	J	0.16	J
Atrazine	mg/Kg	2400	0.12	U	0.092	U	0.037	U	0.079	U	0.033	U	0.033	U	0.035	U	0.044	U	0.16	U	0.03	U	0.051	U
Benzaldehyde	mg/Kg	68000	0.18	U	0.14	U	0.057	U	0.12	U	0.051	U	0.05	U	0.054	U	0.068	U	0.24	U	0.045	U	0.079	U
Benzo(a)anthracene	mg/Kg	2	2.9		5.1		5.7		0.51	J	2		0.75		7.4		6.2		0.74	J	0.48		0.28	J
Benzo(a)pyrene	mg/Kg	0.2	2.9		3.9		5.8		0.39	J	1.9		0.77		8		5.4		0.65	J	0.54		0.21	J
Benzo(b)fluoranthene	mg/Kg	2	4.8		6.2		7.5		0.51	J	3.6		1.9		12		6.3		0.93	J	0.93		0.32	J
Benzo(ghi)perylene	mg/Kg	30000	2.1		2.6		3.8		0.24	J	1.4		0.62		6.1		2.9		0.3	J	0.46		0.13	J
Benzo(k)fluoranthene	mg/Kg	23	0.055	U	0.043	U	0.017	U	0.037	U	0.015	U	0.015	U	0.016	U	0.021	U	0.074	U	0.014	U	0.024	U
Bis(2-chloroethoxy)methane	mg/Kg	--	0.08	U	0.062	U	0.025	U	0.054	U	0.022	U	0.022	U	0.024	U	0.03	U	0.11	U	0.02	U	0.035	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.039	U	0.03	U	0.012	U	0.026	U	0.011	U	0.011	U	0.011	U	0.015	U	0.052	U	0.0096	U	0.017	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	3.3		5.3		4.2		0.1	J	0.62		0.59		0.039	U	0.65		0.18	U	0.12	J	0.057	U
Butyl benzyl phthalate	mg/Kg	14000	0.14	U	0.11	U	0.043	U	0.092	U	0.039	U	0.038	U	0.041	U	0.052	U	0.18	U	0.034	U	0.06	U
Caprolactam	mg/Kg	340000	0.33	U	0.25	U	0.1	U	0.22	U	0.091	U	0.09	U	0.096	U	0.12	U	0.44	U	0.081	U	0.14	U
Carbazole	mg/Kg	96	0.17	J	3.8		0.13	J	0.047	U	0.066	J	0.03	J	0.92		0.026	U	0.094	U	0.018	U	0.031	U
Chrysene	mg/Kg	230	2.6		4.4		5.9		0.49	J	1.7		0.68		7		6.5		0.69	J	0.54		0.24	J
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.43	J	0.78	J	1.1		0.084	J	0.31	J	0.16	J	1.6		0.62	J	0.15	U	0.1	J	0.047	U
Dibenzofuran	mg/Kg	--	0.17	J	5.5		1.3		0.069	J	0.27	J	0.06	J	0.34	J	0.22	J	0.13	U	0.024	U	0.048	J
Diethyl phthalate	mg/Kg	550000	0.15	U	0.12	U	0.048	U	0.1	U	0.043	U	0.042	U	0.045	U	0.058	U	0.21	U	0.038	U	0.067	U
Dimethyl phthalate	mg/Kg	--	0.097	U	0.075	U	0.03	U	0.065	U	0.027	U	0.027	U										

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Semivolatile Organics (Continued)																								
Fluoranthene	mg/Kg	24000	5.9		12		11		0.94	J	3.4		1.2		10		12		1.8	J	0.42	J	0.61	J
Fluorene	mg/Kg	24000	0.25	J	6.6		1.1		0.13	J	0.44	J	0.069	J	0.64		0.36	J	0.11	U	0.021	U	0.079	J
Hexachlorobenzene	mg/Kg	1	0.1	U	0.08	U	0.032	U	0.069	U	0.032	J	0.029	U	0.031	U	0.039	U	0.14	U	0.026	U	0.045	U
Hexachlorobutadiene	mg/Kg	25	0.11	U	0.081	U	0.033	U	0.07	U	0.029	U	0.029	U	0.031	U	0.039	U	0.14	U	0.026	U	0.046	U
Hexachlorocyclopentadiene	mg/Kg	110	0.079	U	0.061	U	0.025	U	0.053	U	0.022	U	0.022	U	0.023	U	0.03	U	0.11	U	0.02	U	0.034	U
Hexachloroethane	mg/Kg	140	0.077	U	0.059	U	0.024	U	0.051	U	0.021	U	0.021	U	0.023	U	0.029	U	0.1	U	0.019	U	0.033	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	1.8		2.3		3.1		0.21	J	1.3		0.54		5.2		2.6		0.33	J	0.39	J	0.12	J
Isophorone	mg/Kg	2000	0.096	U	0.074	U	0.03	U	0.064	U	0.027	U	0.026	U	0.028	U	0.036	U	0.13	U	0.024	U	0.042	U
Naphthalene	mg/Kg	17	1.9		300	E	15		0.17	J	24		97		2.2		6.2		0.26	J	0.28	J	0.79	
Nitrobenzene	mg/Kg	340	0.043	U	0.033	U	0.013	U	0.029	U	0.012	U	0.012	U	0.013	U	0.016	U	0.057	U	0.011	U	0.019	U
N-Nitrosodiphenylamine	mg/Kg	390	0.093	U	0.072	U	0.029	U	0.062	U	0.026	U	0.026	U	0.028	U	0.035	U	0.12	U	0.023	U	0.04	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.042	U	0.033	U	0.013	U	0.028	U	0.012	U	0.012	U	0.012	U	0.016	U	0.056	U	0.01	U	0.018	U
Pentachlorophenol	mg/Kg	10	0.13	U	0.099	U	0.04	U	0.086	U	0.036	U	0.035	U	0.038	U	0.048	U	0.17	U	0.032	U	0.056	U
Phenanthrene	mg/Kg	300000	1.3	J	14		1.7		0.35	J	1.1		0.33	J	5.6		1.5		0.99	J	0.12	J	0.33	J
Phenol	mg/Kg	210000	0.1	U	0.08	U	0.075	J	0.069	U	0.029	U	0.035	J	0.031	U	0.068	J	0.14	U	0.026	U	0.045	U
Pyrene	mg/Kg	18000	4.6		9.1		9.5		0.86	J	2.2		0.9		9.2		11		1.2	J	0.39	J	0.42	J
Polychlorinated Dioxins and Furans																								
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.063		0.17		0.12		0.042	J	0.22		1.1		0.054	J	0.16		0.029	QJ	0.036	J	0.013	QJ
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	1.5		1.3		1.8		0.057	J	3.2		4.9		5.7		2.9		0.19	QJ	1.8		0.017	QJ
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.057	Q	0.035	Q	0.048	QJ	0.17	U	0.11		0.017	J	0.19		0.13		0.35	U	0.05	J	0.11	U
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.0012	QJ	0.01	U	0.003	QJ	0.17	U	0.073	U	0.44		0.077	U	0.0037	QJ	0.35	U	0.065	U	0.11	U
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.55	Q	0.42	Q	0.59		0.022	J	1.1		2.4		1.5	Q	1.2		0.067	J	0.51		0.0083	QJ
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0069	J	0.013		0.0067	QJ	0.17	U	0.017	QJ	0.57		0.0071	J	0.014	J	0.35	U	0.0057	QJ	0.11	U
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.065		0.057		0.11	Q	0.17	U	0.21	Q	0.48	Q	0.23	Q	0.17	Q	0.011	QJ	0.11	Q	0.002	QJ
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0034	J	0.0065	QJ	0.0084	QJ	0.17	U	0.0066	QJ	0.21		0.0019	QJ	0.0062	QJ	0.35	U	0.065	U	0.11	U
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.013	U	0.01	U	0.081	U	0.17	U	0.073	U	0.017	J	0.077	U	0.097	U	0.35	U	0.065	U	0.11	U
1,2,3,7,8-PCDD	ug/Kg	--	0.002	J	0.0031	QJ	0.081	U	0.17	U	0.0024	QJ	0.9	Q	0.077	U	0.0064	QJ	0.35	U	0.065	U	0.11	U
1,2,3,7,8-PCDF	ug/Kg	--	0.007	J	0.013		0.017	QJ	0.17	U	0.023	J	0.15	Q	0.0083	QJ	0.018	J	0.35	U	0.013	QJ	0.11	U
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.018		0.027	Q	0.027	QJ	0.17	U	0.048	QJ	0.18		0.063	J	0.036	Q	0.35	U	0.045	J	0.11	U
2,3,4,7,8-PCDF	ug/Kg	--	0.042	Q	0.038		0.048	QJ	0.17	U	0.1	Q	1.5	Q	0.11	Q	0.09	J	0.35	U	0.044	J	0.11	U
2,3,7,8-TCDD	ug/Kg	--	0.016	Q	0.23		0.016	U	0.035	U	0.047	Q	0.1	Q	0.04	Q	0.1		0.07	U	0.013	U	0.022	U
2,3,7,8-TCDF	ug/Kg	--	0.0042		0.012	Q	0.02	Q	0.035	U	0.048	Q	0.46	Q	0.0039	J	0.037	Q	0.07	U	0.0098	QJ	0.022	U
OCDD	ug/Kg	--	0.67		2.4		1.7	B	1.6	B	2.3	B	3.4	B	0.48	B	2.7	B	0.82	B	1	B	0.28	B
OCDF	ug/Kg	--	2.6	B	2	B	2.5	B	0.12	BJ	5	B	6.8	B	8.2		5.4	B	0.44	BJ	2.1	B	0.029	QBJ
Total HpCDD	ug/Kg	--	0.15		0.48		0.31		0.13	J	0.55		2.5		0.13	QJ	0.43		0.073	QJ	0.081	QJ	0.029	QJ
Total HpCDF	ug/Kg	--	1.7	Q	1.5	Q	2	Q	0.057	J	3.7		6.2		6.4		3.3	Q	0.22	QJ	2		0.017	QJ
Total HxCDD	ug/Kg	--	0.052	Q	0.12	Q	0.087	QJ	0.015	QJ	0.15	QJ	4.2	Q	0.052	QJ	0.15	QJ	0.35	U	0.032	QJ	0.11	U
Total HxCDF	ug/Kg	--	1.2	Q	0.99	Q	1.4	Q	0.046	QJ	2.6	Q	7.3	Q	3.1	Q	2.4	Q	0.11	QJ	1.4	Q	0.018	QJ
Total PeCDD	ug/Kg	--	0.035	QJ	0.085	Q	0.051	QJ	0.17	U	0.057	QJ	41	QEB	0.022	QJ	0.16	QJ	0.35	U	0.0068	QJ	0.11	U
Total PeCDF	ug/Kg	--	0.52	Q	0.72	Q	0.67	Q	0.17	U	1.3	Q	11	Q	1.2	Q	1.2	Q	0.013	QJ	0.59	Q	0.01	QJ
Total TCDD	ug/Kg	--	0.061	Q	0.31	Q	0.059	Q	0.035	U	0.099	Q	9.8	QS	0.068	Q	0.17	Q	0.07	U	0.0067	J	0.022	U
Total TCDF	ug/Kg	--	0.3	Q	0.71	QS	0.51	Q	0.017	QJ	0.83	Q	14	QS	0.61	Q	1	Q	0.07	U	0.23	Q	0.022	U
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																								
1,2,3,4,6,7,8-HpCDD	0.01	--	6.3E-04		1.7E-03		1.2E-03		4.2E-04		2.2E-03		1.1E-02		5.4E-04		1.6E-03		--		3.6E-04		--	
1,2,3,4,6,7,8-HpCDF	0.01	--	1.5E-02		1.3E-02		1.8E-02		5.7E-04		3.2E-02		4.9E-02		5.7E-02		2.9E-02		--		1.8E-02		--	
1,2,3,4,7,8,9-HpCDF	0.01	--	6.9E-05		1.3E-04		--		--		--		5.7E-03		1.9E-03		1.3E-03		--		5.0E-04		--	
1,2,3,4,7,8-HxCDD	0.10	--	--		--		--		--		1.1E-02		1.7E-03		--		--		--		--		--	
1,2,3,4,7,8-HxCDF	0.10	--	--		--		--		--		--		4.4E-02		--		1.2E-01		6.7E-03		5.1E-02		--	
1,2,3,6,7,8-HxCDD	0.10	--	--		--		5.9E-02		2.2E-03		1.1E-01		2.4E-01		7.1E-04		1.4E-03		--		--		--	

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
1,2,3,6,7,8-HxCDF	0.10	--	6.5E-03		5.7E-03		--		--		--		--		--		--		--		--		--	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continued)																								
1,2,3,7,8,9-HxCDD	0.10	--	3.4E-04		--		--		--		--		2.1E-02		--		--		--		--		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		--		1.7E-03		--		--		--		--		--	
1,2,3,7,8-PCDD	1.00	--	2.0E-03		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDF	0.05	--	3.5E-04		6.5E-04		--		--		1.2E-03		--		--		9.0E-04		--		--		--	
2,3,4,6,7,8-HxCDF	0.10	--	1.8E-03		--		--		--		--		1.8E-02		6.3E-03		--		--		4.5E-03		--	
2,3,4,7,8-PCDF	0.50	--	--		1.9E-02		--		--		--		--		--		4.5E-02		--		2.2E-02		--	
2,3,7,8-TCDD	1.00	--	--		2.3E-01		--		--		--		--		--		1.0E-01		--		--		--	
2,3,7,8-TCDF	0.10	--	4.2E-04		--		--		--		--		--		3.9E-04		--		--		--		--	
OCDD	0.0001	--	6.7E-05		2.4E-04		1.7E-04		1.6E-04		2.3E-04		3.4E-04		4.8E-05		2.7E-04		8.2E-05		1.0E-04		2.8E-05	
OCDF	0.0001	--	2.6E-04		2.0E-04		2.5E-04		1.2E-05		5.0E-04		6.8E-04		8.2E-04		5.4E-04		4.4E-05		2.1E-04		--	
Total 2,3,7,8-TCDD Equivalents ⁽³⁾	ug/Kg	1	2.7E-02		2.7E-01		7.9E-02		3.4E-03		1.6E-01		3.9E-01		6.8E-02		3.0E-01		6.8E-03		9.7E-02		2.8E-05	
Polychlorinated Biphenyls (Aroclors)																								
Aroclor 1016	mg/Kg	1	0.0064	U	0.005	U	0.004	U	0.0085	U	0.0036	U	0.0035	U	0.0038	U	0.0048	U	0.017	U	0.0032	U	0.0055	U
Aroclor 1221	mg/Kg	1	0.0082	U	0.0065	U	0.0052	U	0.011	U	0.0047	U	0.0046	U	0.0049	U	0.0062	U	0.022	U	0.0041	U	0.0071	U
Aroclor 1232	mg/Kg	1	0.0074	U	0.0058	U	0.39		0.0098	U	0.7		0.43		0.19		1.9		0.02	U	0.0037	U	0.0064	U
Aroclor 1242	mg/Kg	1	0.007	U	0.0055	U	0.0044	U	0.0093	U	0.004	U	0.0039	U	0.0042	U	0.0053	U	0.019	U	0.0035	U	0.006	U
Aroclor 1248	mg/Kg	1	0.35		1.7		0.0026	U	0.0054	U	0.0023	U	0.0023	U	0.0024	U	0.0031	U	0.011	U	0.002	U	0.0035	U
Aroclor 1254	mg/Kg	1	0.0061	U	1.1		0.087		0.0081	U	0.23		0.16		0.0036	U	0.29		0.017	U	0.0031	U	0.0053	U
Aroclor 1260	mg/Kg	1	0.16		0.0048	U	0.049		0.0081	U	0.086		0.08		0.034		0.071		0.017	U	0.014	J	0.0053	U
Aroclor 1262	mg/Kg	1	0.0095	U	0.0074	U	0.0059	U	0.013	U	0.0053	U	0.0052	U	0.0056	U	0.0071	U	0.026	U	0.0047	U	0.0081	U
Aroclor 1268	mg/Kg	1	0.0055	U	0.0044	U	0.0035	U	0.0073	U	0.0031	U	0.0031	U	0.0033	U	0.0042	U	0.015	U	0.0028	U	0.0048	U
Polychlorinated Biphenyls (Congeners/Homoloques)																								
PCB 1	mg/Kg	1	0.0012	QB	0.0006	BJ	0.00011	QJ	0.000012	QBJ	0.00015	J	--		0.00008	B	0.0006	QJ	0.000042	QBJ	0.000004	QJ	8.3E-06	BJ
PCB 2 (BZ)	mg/Kg	1	0.00031	BJ	0.00019	BJ	0.00065	U	0.000014	QBJ	0.00059	U	--		0.000069	BJ	0.00048	J	0.000022	QBJ	0.000002	QJ	0.000009	BJ
PCB 3 (BZ)	mg/Kg	1	0.00068	QJ	0.00035	QJ	0.00015	J	0.000019	J	0.00059	U	--		0.000055	QJ	0.00049	QJ	0.000032	J	3.4E-06	QJ	8.1E-06	QJ
PCB 4	mg/Kg	1	0.0024	QB	0.0072	B	0.00054	QBJ	0.000026	QBJ	0.00043	QBJ	--		0.00048	QB	0.0039	QB	0.0002	B	0.000014	QBJ	6.7E-06	QBJ
PCB 5 (BZ)	mg/Kg	1	0.00035	QJ	0.0002	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.000016	QJ	0.00052	QJ	9.8E-06	QJ	0.000013	U	1.9E-06	QJ
PCB 6	mg/Kg	1	0.0025	QB	0.0031	QB	0.00023	QBJ	0.000014	QBJ	0.00018	QBJ	--		0.00031	QB	0.0035	QB	0.00016	QB	9.7E-06	QBJ	4.7E-06	QBJ
PCB 7 (BZ)	mg/Kg	1	0.0004	QBJ	0.00057	QBJ	0.00065	U	5.2E-06	QBJ	0.00059	U	--		0.000044	QBJ	0.00032	QJ	0.000018	QBJ	1.6E-06	QJ	2.8E-06	QBJ
PCB 8	mg/Kg	1	0.0055	QB	0.014	B	0.001	QBJ	0.000046	QBJ	0.00078	QBJ	--		0.001	B	0.0095	B	0.00045	B	0.000031	QB	9.4E-06	QBJ
PCB 9 (BZ)	mg/Kg	1	0.0013	QB	0.00098	QB	0.00065	U	5.2E-06	QBJ	0.00059	U	--		0.000065	QBJ	0.0015	Q	0.000036	QBJ	3.1E-06	QJ	2.5E-06	QBJ
PCB 10 (BZ)	mg/Kg	1	0.00012	QJ	0.0004	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.000026	QJ	0.00015	QJ	0.000015	QJ	1.4E-06	QJ	2.5E-06	QJ
PCB 11 (BZ)	mg/Kg	1	0.0026	QB	0.0079	B	0.0014	QB	0.000045	BJ	0.0012	QB	--		0.00071	B	0.0054	B	0.00027	B	0.000052	QB	0.000024	BJ
PCB 12 (BZ)	mg/Kg	1	0.0022	QBC	0.0027	QBC	0.00029	QCJ	0.000019	QBCJ	0.00035	QCJ	--		0.00033	QBC	0.0047	C	0.00016	BC	0.000015	QC	4.7E-06	QBCJ
PCB 13 (BZ)	mg/Kg	1	0.0022	QBC	0.0027	QBC	0.00029	QCJ	0.000019	QBCJ	0.00035	QCJ	--		0.00033	QBC	0.0047	C	0.00016	BC	0.000015	QC	4.7E-06	QBCJ
PCB 14 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000003	QJ
PCB 15	mg/Kg	1	0.0068	B	0.012	B	0.0017	B	0.000069	QB	0.0025	QB	--		0.0011	B	0.0069	B	0.00038	B	0.000077	QB	6.3E-06	QBJ
PCB 16	mg/Kg	1	0.004	B	0.024	B	0.0013	B	0.000042	QB	0.0007	B	--		0.0014	B	0.011	B	0.00051	B	0.000021	QB	4.6E-06	QBJ
PCB 17 (BZ)	mg/Kg	1	0.0043	B	0.028	B	0.0018	B	0.000063	B	0.00099	B	--		0.0019	B	0.012	B	0.00069	B	0.000033	B	0.000008	QBJ
PCB-18	mg/Kg	1	0.011	B	0.076	B	0.0037	B	0.00013	QB	0.0024	B	--		0.0048	B	0.031	B	0.0017	B	0.000074	B	0.000019	BJ
PCB 19 (BZ)	mg/Kg	1	0.00084	J	0.0051		0.0003	J	0.000012	QJ	0.00063		--		0.00042		0.0016		0.00012		6.8E-06	QJ	0.000022	U
PCB 20 (BZ)	mg/Kg	1	0.021	BC	0.084	BC	0.0073	BC	0.00022	BC	0.0053	BC	--		0.0061	BC	0.04	BC	0.0022	BC	0.0002	BC	0.000019	BCJ
PCB 21 (BZ)	mg/Kg	1	0.0064	BC	0.033	BC	0.0017	BC	0.000054	BC	0.0011	QBC	--		0.0019	BC	0.015	BC	0.00064	BC	0.000038	BC	7.2E-06	BCJ
PCB 22	mg/Kg	1	0.0054	B	0.025	B	0.0018	B	0.000057	B	0.0012	B	--		0.0015	B	0.012	B	0.00053	B	0.00004	B	5.2E-06	BJ
PCB 23 (BZ)	mg/Kg	1	0.001	U	0.000064	QJ	0.00065	U	0.000035	U	0.00059	U	--		4.9E-06	QJ	0.00012	QJ	4.3E-06	QJ	0.000013	U	0.000022	U
PCB 24 (BZ)	mg/Kg	1	0.00024	QJ	0.00075	QJ	0.000053	QJ	0.000035	U	0.00059	U	--		0.000049	QJ	0.00045	J	0.000017	J	0.000013	U	0.000022	U
PCB 25 (BZ)	mg/Kg	1	0.0029	B	0.0059	B	0.00055	J	0.000021	BJ	0.00043	J	--		0.00064	B	0.0031		0.0002	B	0.000018		1.9E-06	BJ

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08		HRWC-5 05/09/08		HRWC-6 05/02/08		HRWC-6 05/02/08		HRWC-7 05/02/08		HRWC-7 05/02/08		HRWC-7 05/07/08		HRWC-8 05/02/08		HRWC-8 05/02/08		HRWC-9 04/24/08		HRWC-9 04/24/08	
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft	
			Primary		Primary		Primary		Primary		Primary		Duplicate	Primary		Primary		Primary		Primary		Primary		Primary
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																								
PCB 26 (BZ)	mg/Kg	1	0.0046	BC	0.012	BC	0.00096	BC	0.000031	QBCJ	0.00062	BC	--		0.0012	BC	0.0064	BC	0.00032	QBC	0.00003	BC	4.9E-06	QBCJ
PCB 27 (BZ)	mg/Kg	1	0.00064	QJ	0.0038		0.00031	J	0.000012	J	0.00037	QJ	--		0.00034		0.0013	Q	0.000072	Q	0.000013	J	0.000022	U
PCB 28	mg/Kg	1	0.021	BC	0.084	BC	0.0073	BC	0.00022	BC	0.0053	BC	--		0.0061	BC	0.04	BC	0.0022	BC	0.0002	BC	0.000019	BCJ
PCB 29 (BZ)	mg/Kg	1	0.0046	BC	0.012	BC	0.00096	BC	0.000031	QBCJ	0.00062	BC	--		0.0012	BC	0.0064	BC	0.00032	Q	0.00003	BC	4.9E-06	QBCJ
PCB 30 (BZ)	mg/Kg	1	0.0021	U	0.0016	U	0.0013	U	0.000069	U	0.0012	U	--		0.00015	U	0.0016	U	0.00014	U	0.000026	U	0.000045	U
PCB 31	mg/Kg	1	0.017	B	0.075	B	0.0053	B	0.00017	B	0.0032	B	--		0.0048	B	0.036	B	0.0018	B	0.00013	B	0.000014	BJ
PCB 32 (BZ)	mg/Kg	1	0.0031	B	0.019	B	0.0013	B	0.000049	B	0.0013	B	--		0.0013	B	0.007	B	0.00042	B	0.000037	B	4.6E-06	QBJ
PCB 33	mg/Kg	1	0.0064	BC	0.033	BC	0.0017	BC	0.000054	BC	0.0011	QBC	--		0.0019	BC	0.015	BC	0.00064	BC	0.000038	BC	7.2E-06	BCJ
PCB 34 (BZ)	mg/Kg	1	0.00036	QJ	0.00037	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.000039	QJ	0.0003	QJ	0.000023	QJ	0.000013	U	0.000022	U
PCB 35 (BZ)	mg/Kg	1	0.00074	QJ	0.0017	Q	0.0002	J	9.1E-06	J	0.00021	J	--		0.00011		0.00093	Q	0.000042	QJ	4.5E-06	J	3.2E-06	QJ
PCB 36 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	4.3E-06	QJ	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 37	mg/Kg	1	0.0058	B	0.018	B	0.0019		0.000055	QB	0.002		--		0.0011	B	0.0085		0.00038	B	0.00007		5.8E-06	BJ
PCB 38 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000002	QJ
PCB 39 (BZ)	mg/Kg	1	0.00025	J	0.00059	J	0.00065	U	0.000035	U	0.00059	U	--		0.000031	J	0.00031	QJ	0.000021	J	1.6E-06	QJ	0.000022	U
PCB 40 (BZ)	mg/Kg	1	0.0085	BC	0.041	BC	0.0037	BC	0.000089	QBC	0.0049	BC	--		0.0033	BC	0.019	BC	0.00007	U	0.00018	BC	6.6E-06	QBCJ
PCB 41	mg/Kg	1	0.00061	QJ	0.0077		0.00065	U	0.000035	U	0.00017	QBJ	--		0.0002	Q	0.0014	QB	0.000065	QJ	0.000013	U	4.5E-06	QJ
PCB 42 (BZ)	mg/Kg	1	0.0054	B	0.025	B	0.0024	B	0.000066	B	0.0032	B	--		0.0023	B	0.012	B	0.00069	B	0.00011	B	3.4E-06	BJ
PCB 43 (BZ)	mg/Kg	1	0.0007	CJ	0.0043	C	0.00021	QCJ	0.000035	U	0.0002	QCJ	--		0.00031	C	0.0016	QC	0.00009	C	7.4E-06	QCJ	2.7E-06	CJ
PCB 44	mg/Kg	1	0.019	BC	0.087	BC	0.0077	BC	0.0002	BC	0.0087	BC	--		0.0074	BC	0.04	BC	0.0022	BC	0.00037	BC	0.000022	BCJ
PCB 45 (BZ)	mg/Kg	1	0.0036	BC	0.018	BC	0.0013	BC	0.000041	BC	0.0041	BC	--		0.0016	BC	0.0073	BC	0.00041	BC	0.000081	BC	3.3E-06	QBCJ
PCB 46 (BZ)	mg/Kg	1	0.00095	QJ	0.0066		0.00037	J	0.000014	QJ	0.0014		--		0.00061		0.0023		0.00015		0.000021		0.000022	U
PCB 47 (BZ)	mg/Kg	1	0.019	BC	0.087	BC	0.0077	BC	0.0002	BC	0.0087	BC	--		0.0074	BC	0.04	BC	0.0022	BC	0.00037	BC	0.000022	BCJ
PCB 48 (BZ)	mg/Kg	1	0.0031	B	0.022	B	0.0013		0.000039	QB	0.00086		--		0.0013	B	0.009		0.00047	B	0.000028		0.000022	U
PCB 49	mg/Kg	1	0.015	B	0.058	B	0.0058	B	0.00015	B	0.0057	B	--		0.0049	B	0.029	B	0.0016	B	0.00021	B	0.000015	BJ
PCB 50 (BZ)	mg/Kg	1	0.0026	BC	0.013	BC	0.00096	BC	0.000029	BCJ	0.0035	BC	--		0.0013	BC	0.0057	BC	0.00032	BC	0.000071	BC	3.7E-06	BCJ
PCB 51 (BZ)	mg/Kg	1	0.0036	BC	0.018	BC	0.0013	BC	0.000041	BC	0.0041	BC	--		0.0016	BC	0.0073	BC	0.00041	BC	0.000081	BC	3.3E-06	QBCJ
PCB 52	mg/Kg	1	0.02	B	0.1	B	0.0092	B	0.00023	B	0.011	B	--		0.0093	B	0.046	B	0.0025	B	0.00048	B	0.000045	B
PCB 53 (BZ)	mg/Kg	1	0.0026	BC	0.013	BC	0.00096	BC	0.000029	BCJ	0.0035	BC	--		0.0013	BC	0.0057	BC	0.00032	BC	0.000071	BC	3.7E-06	BCJ
PCB 54 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000016	QJ	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 55 (BZ)	mg/Kg	1	0.00039	QJ	0.0013	Q	0.000095	QJ	4.9E-06	J	0.00059	U	--		0.0001	Q	0.00078	U	0.000039	J	0.000013	U	0.000022	U
PCB 56 (BZ)	mg/Kg	1	0.0094		0.039		0.0035	B	0.000088		0.0032	B	--		0.0026		0.021	B	0.00096		0.00013	B	0.000022	U
PCB 57 (BZ)	mg/Kg	1	0.00024	QJ	0.00055	J	0.00065	U	0.000035	U	0.00059	U	--		0.000041	J	0.00078	U	8.9E-06	J	0.000013	U	0.000022	U
PCB 58 (BZ)	mg/Kg	1	0.00047	QJ	0.0015		0.00065	U	5.5E-06	QJ	0.0005	J	--		0.00021		0.00053	QJ	0.000045	J	0.000021		0.000022	U
PCB 59 (BZ)	mg/Kg	1	0.0017	C	0.0085	C	0.00062	QCJ	0.000025	CJ	0.0015	C	--		0.00073	C	0.0038	C	0.00021	C	0.000043	C	3.7E-06	QCJ
PCB 60 (BZ)	mg/Kg	1	0.0028		0.02		0.0011	B	0.000029	J	0.0012	B	--		0.00089		0.0048	B	0.00023		0.000038	B	2.5E-06	QJ
PCB 61 (BZ)	mg/Kg	1	0.0021	U	0.0016	U	0.0013	U	0.000069	U	0.0012	U	--		0.00015	U	0.0016	U	0.00014	U	0.000026	U	0.000045	U
PCB 62 (BZ)	mg/Kg	1	0.0017	C	0.0085	C	0.00062	QCJ	0.000025	CJ	0.0015	C	--		0.00073	C	0.0038	C	0.00021	C	0.000043	C	3.7E-06	QCJ
PCB 63 (BZ)	mg/Kg	1	0.00073	J	0.0034		0.00065	U	7.9E-06	J	0.00014	QJ	--		0.00024		0.0015		0.000079		5.8E-06	J	0.000022	U
PCB 64	mg/Kg	1	0.0075	B	0.038	B	0.0034	B	0.000087	B	0.0039	B	--		0.0028	B	0.018	B	0.00094	B	0.00012	B	5.8E-06	QBJ
PCB 65 (BZ)	mg/Kg	1	0.																					

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																								
PCB 75	mg/Kg	1	0.0017	C	0.0085	C	0.00062	QCJ	0.000025	CJ	0.0015	C	--		0.00073	C	0.0038	C	0.00021	C	0.000043	C	3.7E-06	QCJ
PCB 76 (BZ)	mg/Kg	1	0.028	BC	0.14	BC	0.012	BC	0.00028	BC	0.0081	BC	--		0.0086	BC	0.067	BC	0.0033	BC	0.0003	BC	0.000035	BCJ
PCB 77	mg/Kg	1	0.0033	Q	0.0086		0.00082		0.000023	QJ	0.0017		--		0.00058		0.0045		0.00021	Q	0.000053		3.8E-06	J
PCB 78 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 79 (BZ)	mg/Kg	1	0.00044	QJ	0.00052	J	0.00065	U	0.000035	U	0.00015	QJ	--		0.000068	J	0.00021	J	0.000019	QJ	6.5E-06	J	0.000022	U
PCB 80 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	3.6E-06	J
PCB 81	mg/Kg	1	0.001	U	0.00039	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.000017	QJ	0.00078	U	9.2E-06	Q	0.000013	U	0.000022	U
PCB 82 (BZ)	mg/Kg	1	0.0028		0.013		0.001	B	0.000033	J	0.003	B	--		0.0014		0.0055	B	0.00029		0.00013	B	0.000022	U
PCB 83 (BZ)	mg/Kg	1	0.013	C	0.038	C	0.0052	BC	0.00014	C	0.01	BC	--		0.0048	C	0.021	BC	0.0013	C	0.00046	BC	0.000041	C
PCB 84	mg/Kg	1	0.0052		0.021		0.0021	B	0.000061		0.0063	B	--		0.0026		0.01	B	0.00058		0.00026	B	0.000019	J
PCB 85 (BZ)	mg/Kg	1	0.0037	C	0.013	C	0.00085	BC	0.000038	QC	0.0028	BC	--		0.0014	C	0.0057	BQC	0.00034	C	0.00012	BQC	0.000012	CJ
PCB 86 (BZ)	mg/Kg	1	0.011	QC	0.043	C	0.0041	BC	0.00012	QC	0.009	BC	--		0.0045	C	0.019	BC	0.0011	C	0.00045	BC	0.000044	C
PCB 87	mg/Kg	1	0.011	QC	0.043	C	0.0041	BC	0.00012	QC	0.009	BC	--		0.0045	C	0.019	BC	0.0011	C	0.00045	BC	0.000044	C
PCB 88 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 89 (BZ)	mg/Kg	1	0.001	U	0.0017	Q	0.00065	U	0.000035	U	0.00045	J	--		0.0002	Q	0.00069	J	0.000052	QJ	0.000011	J	0.000022	U
PCB 90 (BZ)	mg/Kg	1	0.016	BC	0.055	BC	0.0072	BC	0.00016	QBC	0.012	BC	--		0.0062	BC	0.027	BC	0.0016	BC	0.00064	BC	0.000073	BC
PCB 91 (BZ)	mg/Kg	1	0.0033		0.01		0.001	B	0.000037		0.0034	B	--		0.0013		0.0047	B	0.00031		0.00016	B	8.3E-06	QJ
PCB 92 (BZ)	mg/Kg	1	0.0034		0.011		0.00099		0.000036		0.0031		--		0.0014		0.0056		0.00033		0.00015		0.000012	J
PCB 93 (BZ)	mg/Kg	1	0.00032	QJ	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 94 (BZ)	mg/Kg	1	0.00025	QJ	0.00047	J	0.00065	U	0.000035	U	0.00059	U	--		0.000062	QJ	0.00043	J	0.00007	U	6.9E-06	QJ	0.000022	U
PCB 95 (BZ)	mg/Kg	1	0.012	C	0.045	C	0.0055	BC	0.00014	C	0.016	BC	--		0.0059	C	0.022	BC	0.0013	C	0.00073	BC	0.00005	QC
PCB 96 (BZ)	mg/Kg	1	0.0003	J	0.00087		0.00065	U	0.000035	U	0.00019	J	--		0.000098	Q	0.00056	QJ	0.00003	J	7.8E-06	QJ	0.000022	U
PCB 97	mg/Kg	1	0.011	QC	0.043	C	0.0041	BC	0.00012	QC	0.009	BC	--		0.0045	C	0.019	BC	0.0011	C	0.00045	BC	0.000044	C
PCB 98 (BZ)	mg/Kg	1	0.00085	CJ	0.0037	QC	0.00027	CJ	8.9E-06	QCJ	0.00088	QC	--		0.0004	QC	0.0016	QC	0.00012	C	0.000037	QC	0.000022	U
PCB 99	mg/Kg	1	0.013	C	0.038	C	0.0052	BC	0.00014	C	0.01	BC	--		0.0048	C	0.021	BC	0.0013	C	0.00046	BC	0.000041	C
PCB 100 (BZ)	mg/Kg	1	0.012	C	0.045	C	0.0055	BC	0.00014	C	0.016	BC	--		0.0059	C	0.022	BC	0.0013	C	0.00073	BC	0.00005	QC
PCB 101	mg/Kg	1	0.016	BC	0.055	BC	0.0072	BC	0.00016	QBC	0.012	BC	--		0.0062	BC	0.027	BC	0.0016	BC	0.00064	BC	0.000073	BC
PCB 102 (BZ)	mg/Kg	1	0.00085	CJ	0.0037	QC	0.00027	CJ	8.9E-06	QCJ	0.00088	QC	--		0.0004	Q	0.0016	QC	0.00012	C	0.000037	QC	0.000022	U
PCB 103 (BZ)	mg/Kg	1	0.00056	J	0.00058	J	0.00065	U	0.000035	U	0.00059	U	--		0.000078		0.00078	U	0.000039	J	0.000011	J	0.000022	U
PCB 104 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 105	mg/Kg	1	0.0096	Q	0.023		0.0022	QB	0.000061	Q	0.003	QB	--		0.0014	Q	0.013	QB	0.00054	Q	0.00022	QB	0.000028	Q
PCB 106 (BZ)	mg/Kg	1	0.00019	QJ	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 107 (BZ)	mg/Kg	1	0.001	U	0.0032	Q	0.00042	J	0.000011	J	0.00055	QJ	--		0.00038		0.002		0.00015		0.000033		3.1E-06	QJ
PCB 108 (BZ)	mg/Kg	1	0.00056	CJ	0.002	C	0.00014	QCJ	0.000035	U	0.0002	QCJ	--		0.00017	C	0.00062	CJ	0.00004	QCJ	0.000018	C	0.000022	U
PCB 109 (BZ)	mg/Kg	1	0.011	QC	0.043	C	0.0041	BC	0.00012	QC	0.009	BC	--		0.0045	C	0.019	BC	0.0011	C	0.00045	BC	0.000044	C
PCB 110	mg/Kg	1	0.019	BC	0.064	BC	0.0083	BC	0.00022	BC	0.02	BC	--		0.0079	BC	0.032	BC	0.0018	BC	0.0011	BC	0.000078	BC
PCB 111 (BZ)	mg/Kg	1	0.00015	QJ	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.000016	QJ	0.000013	U	0.000022	U
PCB 112 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 113 (BZ)	mg/Kg	1	0.016	BC	0.055	BC	0.0072	BC	0.00016	QBJ	0.012	BC	--		0.0062	BC	0.027	BC	0.0016	BC	0.00064	BC	0.000073	BC
PCB 114	mg/Kg	1	0.00055	QJ	0.0015		0.00065	U	0.000035	U	0.00012	QJ	--		0.00021		0.00069	QJ	0.00004	J	0.000014	Q	0.000022	U
PCB 115																								

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																								
PCB 124 (BZ)	mg/Kg	1	0.00056	C	0.002	C	0.00014	QCJ	0.000035	U	0.0002	QCJ	--		0.00017	C	0.00062	CJ	0.00004	QCJ	0.000018	C	0.000022	U
PCB 125 (BZ)	mg/Kg	1	0.011	Q	0.043	C	0.0041	BC	0.00012	QC	0.009	BC	--		0.0045	C	0.019	BC	0.0011	C	0.00045	BC	0.000044	C
PCB 126	mg/Kg	1	0.001	U	0.00028	QJ	0.00065	U	4.9E-06	QJ	0.00059	U	--		0.000035	QJ	0.00078	U	0.000025	QJ	4.6E-06	QJ	0.000022	U
PCB 127 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000012	J	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 128	mg/Kg	1	0.0026		0.0072		0.00082		0.000027	J	0.0025		--		0.0011		0.0026		0.00022		0.00019		0.000016	J
PCB 129 (BZ)	mg/Kg	1	0.016	BC	0.042	BC	0.0069	BC	0.00015	BC	0.014	BC	--		0.006	BC	0.016	BC	0.0012	BC	0.0013	BC	0.00013	BC
PCB 130 (BZ)	mg/Kg	1	0.0012		0.0027		0.0003	J	0.000014	QJ	0.00077		--		0.00043		0.00099	Q	0.000096		0.000077		5.4E-06	QJ
PCB 131 (BZ)	mg/Kg	1	0.001	U	0.00079	J	0.00065	U	0.000035	U	0.00019	QJ	--		0.00013		0.00078	U	0.000027	QJ	0.00001	QJ	0.000022	U
PCB 132 (BZ)	mg/Kg	1	0.0051		0.015		0.0021	B	0.000052		0.0054	B	--		0.0022		0.0065	B	0.00043		0.00039	B	0.000043	
PCB 133 (BZ)	mg/Kg	1	0.00041	J	0.00081		0.00065	U	0.000035	U	0.00024	J	--		0.00011		0.00022	QJ	0.000026	QJ	0.000017		0.000022	U
PCB 134 (BZ)	mg/Kg	1	0.001	C	0.0029	C	0.00035	CJ	0.000011	CJ	0.00081	QC	--		0.00042	C	0.00081	QC	0.000081	C	0.00007	C	0.000011	CJ
PCB 135	mg/Kg	1	0.0062	QC	0.014	C	0.0022	C	0.000067	C	0.0048	C	--		0.002	C	0.0058	QC	0.00042	QC	0.00047	C	0.000077	C
PCB 136	mg/Kg	1	0.0024		0.006		0.00074		0.000024	QJ	0.0019		--		0.00083		0.0025		0.00018		0.00016		0.000023	
PCB 137 (BZ)	mg/Kg	1	0.00085	J	0.002		0.00027	J	0.000035	U	0.00063		--		0.00034		0.00072	J	0.000056	J	0.000042		0.000022	U
PCB 138	mg/Kg	1	0.016	BC	0.042	BC	0.0069	BC	0.00015	BC	0.014	BC	--		0.006	BC	0.016	BC	0.0012	BC	0.0013	BC	0.00013	BC
PCB 139 (BZ)	mg/Kg	1	0.00039	QCJ	0.001	QC	0.00065	U	0.000035	U	0.00022	CJ	--		0.00014	C	0.00022	QCJ	0.000034	CJ	0.000014	C	0.000022	U
PCB 140 (BZ)	mg/Kg	1	0.00039	QCJ	0.001	QC	0.00065	U	0.000035	U	0.00022	CJ	--		0.00014	C	0.00022	QCJ	0.000034	CJ	0.000014	C	0.000022	U
PCB 141	mg/Kg	1	0.0032		0.0096		0.0014		0.000026	QJ	0.0029		--		0.0014		0.0025		0.00021		0.00025		0.000039	
PCB 142 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 143 (BZ)	mg/Kg	1	0.001	C	0.0029	C	0.00035	CJ	0.000011	CJ	0.00081	QC	--		0.00042	C	0.00081	QC	0.000081	C	0.00007	C	0.000011	CJ
PCB 144 (BZ)	mg/Kg	1	0.00077	J	0.0025		0.0003	J	0.000035	U	0.00061		--		0.00032		0.00054	J	0.000063	QJ	0.000056		0.000014	QJ
PCB 145 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 146 (BZ)	mg/Kg	1	0.003		0.0058		0.00087	Q	0.000023	QJ	0.0019		--		0.00084		0.0028		0.00021		0.00019		0.00002	J
PCB 147 (BZ)	mg/Kg	1	0.013	BC	0.033	BC	0.0055	BC	0.00014	BC	0.012	BC	--		0.0047	BC	0.013	BC	0.00095	BC	0.0011	BC	0.00013	BC
PCB 148 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 149	mg/Kg	1	0.013	BC	0.033	BC	0.0055	BC	0.00014	BC	0.012	BC	--		0.0047	BC	0.013	BC	0.00095	BC	0.0011	BC	0.00013	BC
PCB 150 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 151	mg/Kg	1	0.0062	QC	0.014	C	0.0022	C	0.000067	C	0.0048	C	--		0.002	C	0.0058	QC	0.00042	QC	0.00047	C	0.000077	C
PCB 152 (BZ)	mg/Kg	1	0.00038	J	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 153	mg/Kg	1	0.014	BC	0.033	BC	0.0066	BC	0.00014	BC	0.012	BC	--		0.0048	BC	0.013	BC	0.00097	BC	0.001	BC	0.00015	BC
PCB 154 (BZ)	mg/Kg	1	0.0062	QC	0.014	C	0.0022	C	0.000067	C	0.0048	C	--		0.002	C	0.0058	Q	0.00042	QC	0.00047	C	0.000077	C
PCB 155 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	6.9E-06	J	0.000022	U
PCB 156	mg/Kg	1	0.0021	C	0.0044	C	0.00059	CJ	0.000021	QCJ	0.00087	C	--		0.00066	C	0.0016	C	0.00013	C	0.000087	C	0.000012	QCJ
PCB 157	mg/Kg	1	0.0021	C	0.0044	C	0.00059	CJ	0.000021	QCJ	0.00087	C	--		0.00066	C	0.0016	C	0.00013	C	0.000087	C	0.000012	QCJ
PCB 158	mg/Kg	1	0.0016		0.0045		0.00058	J	0.000017	J	0.0015		--		0.00061		0.0014		0.00011		0.00011		0.000013	J
PCB 159 (BZ)	mg/Kg	1	0.00023	QJ	0.00042	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.00006	QJ	0.00078	U	0.000011	QJ	0.000011	QJ	4.6E-06	J
PCB 160 (BZ)	mg/Kg	1	0.016	BC	0.042	BC	0.0069	BC	0.00015	BC	0.014	BC	--		0.006	BC	0.016	BC	0.0012	BC	0.0013	BC	0.00013	BC
PCB 161 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 162 (BZ)	mg/Kg	1	0.0017	Q	0.00083	Q	0.00065	U	5.3E-06	QJ	0.00018	QJ	--		0.000089	Q	0.0017	Q	0.00005	QJ	0.000035	Q	0.000022	U
PCB 163 (BZ)	mg/Kg	1	0.016	BC	0.042	BC	0.0069	BC	0.00015	BC	0.014	BC	--		0.006	BC	0.016	BC	0.0012	BC	0.0013	BC	0.00013	BC
PCB 164 (BZ)	mg/Kg	1	0.0015		0.003		0.00044	J	0.000011	QJ	0.001		--		0.00044		0.0011	Q	0.000099		0.000095		8.1E-06	QJ
PCB 165 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 166 (BZ)	mg/Kg	1	0.00051	QJ	0.00027	QJ	0.00065	U	0.000035	U	0.00012	QJ	--		0.000088		0.0002	J	0.000019	J	0.000019		4.9E-06	QJ
PCB 167	mg/Kg	1	0.00078	J	0.0015		0.00021	J	5.8E-06	J	0.0004	QJ	--		0.00022		0.00058	QC	0.000043	J	0.000042		5.1E-06	QJ
PCB 168 (BZ)	mg/Kg	1	0.014	BC	0.033	BC	0.0066	BC	0.00014	BC	0.012	BC	--		0.0048	BC	0.013	BC	0.00097	BC	0.001	BC	0.00015	BC
PCB 169	mg/Kg	1	0.00024	QJ	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.000011	QJ	1.3E-06	QJ	0.000022	U
PCB 170	mg/Kg	1	0.0046		0.0094		0.0016		0.000039		0.0029		--		0.0016		0.0034		0.00026		0.00041		0.000064	
PCB 171	mg/Kg	1	0.0015	C	0.0031	C	0.00048	QCJ	0.000012	QCJ	0.00075	QC	--		0.00049	C	0.00073	QCJ	0.000078	Q	0.00013	C	0.000022	CJ
PCB 172 (BZ)	mg/Kg	1	0.001	J	0.0018		0.00031	J	0.00001	QJ	0.00047	J	--		0.00031		0.00038	QJ	0.000049	QJ	0.000087		0.000016	QJ

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																								
PCB 173 (BZ)	mg/Kg	1	0.0015	C	0.0031	C	0.00048	QCJ	0.000012	QCJ	0.00075	QC	--		0.00049	C	0.00073	QCJ	0.000078	QC	0.00013	C	0.000022	CJ
PCB 174	mg/Kg	1	0.0042		0.01		0.0016		0.000037		0.0033		--		0.0015		0.0032		0.00024		0.00043		0.000092	
PCB 175 (BZ)	mg/Kg	1	0.00026	J	0.00052	J	0.00065	U	0.000035	U	0.00059	U	--		0.000069	QJ	0.00078	U	0.000019	QJ	0.000017		0.000022	U
PCB 176 (BZ)	mg/Kg	1	0.00062	J	0.0015		0.00021	J	0.000035	U	0.00037	QJ	--		0.00021		0.00033	QJ	0.000037	QJ	0.00005		0.000013	J
PCB 177 (BZ)	mg/Kg	1	0.0028		0.0061		0.00094		0.000021	QJ	0.0019		--		0.00088		0.0016	Q	0.00017		0.00026		0.000048	
PCB 178 (BZ)	mg/Kg	1	0.0012		0.0022		0.00029	J	0.000014	QJ	0.00058	J	--		0.00034		0.00062	QJ	0.000073		0.000095		0.000027	
PCB 179 (BZ)	mg/Kg	1	0.0023		0.005		0.00066	Q	0.000023	QJ	0.0015		--		0.00068		0.0018		0.00014		0.00018		0.000044	
PCB 180	mg/Kg	1	0.0095	C	0.02	C	0.004	C	0.000094	C	0.0071	C	--		0.0033	C	0.0067	C	0.00053	C	0.001	C	0.00021	C
PCB 181 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000023	J	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 182 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.000024	QJ	0.000013	U	0.000022	U
PCB 183	mg/Kg	1	0.0025	Q	0.0065		0.001	Q	0.000024	QJ	0.0022		--		0.001		0.002		0.00017	Q	0.00027		0.000066	
PCB 184	mg/Kg	1	0.00012	J	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000006	QJ	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 185 (BZ)	mg/Kg	1	0.0007	J	0.0013		0.00065	U	0.000035	U	0.00033	J	--		0.00018	Q	0.00024	QJ	0.000033	J	0.000056		0.000013	QJ
PCB 186 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 187	mg/Kg	1	0.0065		0.014		0.0026		0.000058		0.0045		--		0.002		0.0045		0.00039		0.00061		0.00015	
PCB 188 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 189	mg/Kg	1	0.00025	QJ	0.00037	QJ	0.00065	U	0.000035	U	0.000083	QJ	--		0.00012		0.00078	U	0.000018	QJ	0.000018		3.3E-06	J
PCB 190 (BZ)	mg/Kg	1	0.0011		0.0021		0.00027	J	0.000035	U	0.00065		--		0.00036		0.00061	J	0.00006	QJ	0.000095		0.000026	
PCB 191 (BZ)	mg/Kg	1	0.00016	QJ	0.00048	J	0.00065	U	0.000035	U	0.00012	QJ	--		0.0001		0.00078	U	0.000021	QJ	0.000021		0.000022	U
PCB 192 (BZ)	mg/Kg	1	0.00016	J	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 193 (BZ)	mg/Kg	1	0.0095	C	0.02	C	0.004	C	0.000094	C	0.0071	C	--		0.0033	C	0.0067	C	0.00053	C	0.001	C	0.00021	C
PCB 194	mg/Kg	1	0.0025	Q	0.0053		0.00064	QJ	0.000022	QJ	0.0015		--		0.001		0.0013	Q	0.00016		0.00026		0.000095	
PCB 195	mg/Kg	1	0.0012		0.0022		0.00035	QJ	0.000011	QJ	0.00052	J	--		0.00043		0.00058	J	0.000067	J	0.000094		0.000023	
PCB 196 (BZ)	mg/Kg	1	0.0015		0.0029		0.00052	J	0.000035	U	0.00092		--		0.0005		0.0008		0.000095		0.00013		0.00007	
PCB 197 (BZ)	mg/Kg	1	0.00021	Q	0.0002	QJ	0.00065	U	0.000035	U	0.00059	U	--		0.000048	J	0.00078	U	0.000014	QJ	9.2E-06	J	0.000007	J
PCB 198 (BZ)	mg/Kg	1	0.004	C	0.0063	C	0.0012	C	0.000027	CJ	0.0022	C	--		0.0011	C	0.0021	C	0.00023	C	0.00032	C	0.00031	C
PCB 199 (BZ)	mg/Kg	1	0.00048	QJ	0.00072	J	0.00065	U	0.000035	U	0.00018	QJ	--		0.00013		0.00027	J	0.000028	J	0.000032		0.000013	J
PCB 201	mg/Kg	1	0.00047	QJ	0.00084		0.00065	U	0.000035	U	0.00019	QJ	--		0.00016		0.00023	QJ	0.000031	QJ	0.000034		0.000032	
PCB 201 (BZ)	mg/Kg	1	0.004	C	0.0063	C	0.0012	C	0.000027	C	0.0022	C	--		0.0011	C	0.0021	C	0.00023	C	0.00032	C	0.00031	C
PCB 202 (BZ)	mg/Kg	1	0.00097	J	0.0017	Q	0.00035	J	0.000035	U	0.00042	QJ	--		0.00026		0.00049	J	0.000067	J	0.000076		0.00014	
PCB 203 (BZ)	mg/Kg	1	0.0021		0.0037		0.00058	QJ	0.000015	QJ	0.0013		--		0.00061		0.00083	Q	0.00015		0.00019		0.00014	
PCB 204 (BZ)	mg/Kg	1	0.001	U	0.00081	U	0.00065	U	0.000035	U	0.00059	U	--		0.000077	U	0.00078	U	0.00007	U	0.000013	U	0.000022	U
PCB 205 (BZ)	mg/Kg	1	0.00031	J	0.00026	QJ	0.00065	U	0.000035	U	0.000045	QJ	--		0.0001		0.00078	U	0.000016	QJ	0.000015		0.000004	QJ
PCB 206	mg/Kg	1	0.0032		0.0037		0.00066		0.000018	QJ	0.0013		--		0.00083		0.0015	Q	0.00015		0.00017		0.00042	
PCB 207	mg/Kg	1	0.00072	J	0.00041	J	0.00065	U	0.000035	U	0.00011	QJ	--		0.00011		0.00019	J	0.000031	QJ	0.00002		0.000041	
PCB 208 (BZ)	mg/Kg	1	0.0011		0.0012		0.00065	U	0.000035	U	0.00037	QJ	--		0.00024		0.00051	QJ	0.000074		0.000062		0.00022	
Monochlorobiphenyl (total)	mg/Kg	1	0.0022	QB	0.0011	BJQ	0.00025	QJ	0.000045	QBJ	0.00015	J	--		0.0002	BQ	0.0016	QJ	0.000095	QBJ	9.3E-06	QJ	0.000025	BJQ
Dichlorobiphenyl (total)	mg/Kg	1	0.024	QB	0.049	BQ	0.0052	QB	0.00023	QB	0.0055	QB	--		0.0041	QB	0.036	QB	0.0017	BQ	0.0002	QB	0.000069	QBJ
Trichlorobiphenyl (total)	mg/Kg	1	0.089	BQ	0.41	BQ	0.028	BQ	0.00093	QB	0.021	BQ	--		0.028	BQ	0.19	BQ	0.0097	BQ	0.00071	QB	0.000099	BJQ
Tetrachlorobiphenyl (total)	mg/Kg	1	0.16	BQ	0.73	BQ	0.062	BQ	0.0016	BQ	0.071	BQ	--		0.056	QB	0.34	BQ	0.017	BQ	0.0025	BQ	0.00018	BQ
Pentachlorobiphenyl (total)	mg/Kg	1	0.12	QB	0.4	QB	0.045	BQ	0.0012	QB	0.098	BQ	--		0.045	QB	0.2	QB	0.011	QB	0.0049	QB	0.00042	QB
Hexachlorobiphenyl (total)	mg/Kg	1	0.08	QB	0.19	BQ	0.03	BQ	0.00.															

TABLE 4-16
ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Pesticides/Herbicides (Continued)																								
2,4-DB	mg/Kg	--	0.047	U	0.037	U	0.029	U	0.062	U	0.026	U	--		0.028	U	0.035	U	0.13	U	0.023	U	0.04	U
4,4'-DDD	mg/Kg	13	0.0095	JP	0.0015	U	0.0019	JP	0.00051	U	0.008	JP	--		0.0047		0.003	J	0.001	U	0.0006	JP	0.00033	U
4,4'-DDE	mg/Kg	9	0.025		0.067		0.0055	JP	0.00034	U	0.0088	JP	--		0.0027	P	0.014	J	0.00091	J	0.00052	JP	0.00022	U
4,4'-DDT	mg/Kg	8	0.003	U	0.0023	U	0.0018	U	0.00078	U	0.0017	U	--		0.00035	U	0.0022	U	0.0016	U	0.00029	U	0.00051	U
Aldrin	mg/Kg	0.2	0.0023	U	0.0018	U	0.0014	U	0.00061	U	0.0013	U	--		0.00027	U	0.0017	U	0.0012	U	0.00023	U	0.00039	U
alpha-BHC	mg/Kg	0.5	0.0033	U	0.0026	U	0.0021	U	0.00087	U	0.0019	U	--		0.00039	U	0.0025	U	0.0018	U	0.00033	U	0.00057	U
alpha-Chlordane	mg/Kg	1	0.0013	U	0.0011	U	0.00084	U	0.00036	U	0.0077	J	--		0.00067	JP	0.001	U	0.00073	U	0.0011	J	0.00023	U
beta-BHC	mg/Kg	2	0.0025	U	0.002	U	0.0016	U	0.00067	U	0.0014	U	--		0.0003	U	0.0019	U	0.0014	U	0.00025	U	0.00044	U
delta-BHC	mg/Kg	--	0.0083	J	0.022		0.0031	JP	0.0006	U	0.0051	J	--		0.0012	JP	0.0074	J	0.0014	JP	0.0003	JP	0.00039	U
Dieldrin	mg/Kg	0.2	0.0016	U	0.0013	U	0.001	U	0.00043	U	0.002	JP	--		0.00019	U	0.0012	U	0.00087	U	0.00016	U	0.00028	U
Endosulfan I	mg/Kg	6800	0.0023	U	0.0018	U	0.0014	U	0.0006	U	0.0013	U	--		0.00027	U	0.0017	U	0.0012	U	0.00022	U	0.00039	U
Endosulfan II	mg/Kg	6800	0.01	JP	0.0039	U	0.0031	U	0.0039	JP	0.0028	U	--		0.00059	U	0.0037	U	0.0027	U	0.0005	U	0.00086	U
Endosulfan sulfate	mg/Kg	6800	0.0035	U	0.0028	U	0.0022	U	0.00093	U	0.0029	J	--		0.00041	U	0.0026	U	0.0019	U	0.00035	U	0.0006	U
Endrin	mg/Kg	340	0.0017	U	0.0014	U	0.0011	U	0.00046	U	0.00097	U	--		0.0002	U	0.0013	U	0.00094	U	0.00017	U	0.0003	U
Endrin aldehyde	mg/Kg	--	0.0027	U	0.0022	U	0.0017	U	0.00072	U	0.0015	U	--		0.00032	U	0.0021	U	0.0015	U	0.00027	U	0.00047	U
Endrin ketone	mg/Kg	--	0.0033	JP	0.0059	JP	0.0016	U	0.00067	U	0.0016	JP	--		0.00039	JP	0.0019	U	0.0014	U	0.00025	U	0.00043	U
gamma-Chlordane	mg/Kg	1	0.0022	U	0.0017	U	0.0014	U	0.00059	U	0.01	JP	--		0.0016	JP	0.0017	U	0.0012	U	0.0015	J	0.00038	U
Heptachlor	mg/Kg	0.7	0.0028	U	0.016	JP	0.0017	U	0.00073	U	0.0016	U	--		0.00074	JP	0.012	J	0.0015	U	0.00027	U	0.00047	U
Heptachlor epoxide	mg/Kg	0.3	0.0041	JP	0.019	P	0.0044	JP	0.00057	U	0.0019	JP	--		0.00026	U	0.0039	J	0.0012	U	0.00022	U	0.00037	U
Lindane	mg/Kg	2	0.0079	J	0.0073	JP	0.0061	J	0.00079	U	0.0069	J	--		0.0055		0.0073	J	0.0016	U	0.00043	JP	0.00052	JP
Methoxychlor	mg/Kg	5700	0.009	U	0.0071	U	0.0056	U	0.0024	U	0.0051	U	--		0.0011	U	0.0067	U	0.0049	U	0.00089	U	0.0015	U
Silvex	mg/Kg	--	0.0064	U	0.0051	U	0.004	U	0.0086	U	0.0036	U	--		0.0038	U	0.0048	U	0.017	U	0.0032	U	0.0056	U
Toxaphene	mg/Kg	3	0.15	U	0.12	U	0.094	U	0.04	U	0.085	U	--		0.018	U	0.11	U	0.081	U	0.015	U	0.026	U
Metals																								
Aluminum	mg/Kg	--	15300		25700		12200	J	7170	J	17400	J	16800	J	22200		17200	J	11700	J	23500		11500	
Antimony	mg/Kg	450	2.5	B	17.9		3.5		0.87	B	7.6		6.3		1.4	U	9.2		1.2	B	6.3	BJ	1.2	BJ
Arsenic	mg/Kg	19	14.5		12.9		50.3		33.4		13.1		9.6		13.7	B	52.5		7.4		3	U	13.4	
Barium	mg/Kg	59000	112		92.6		140		43.5	B	74.1		67		56		125		34.8	B	49.9		41.4	B
Beryllium	mg/Kg	140	1.1		1.5		0.75		0.39	B	0.26	B	0.26	B	0.047	U	0.75	B	0.54	B	0.04	U	0.78	BJ
Cadmium	mg/Kg	78	0.94	B	1.3		1		0.16	U	0.6	B	0.13	U	2.7		1.3		0.33	U	0.12	U	0.11	U
Calcium	mg/Kg	--	7240		59900		8460		5460		40200		54400		103000		26400		6170		90300		5680	
Chromium ⁽⁴⁾	mg/Kg	--	589	J	6310	J	1360	J	149	J	4410	J	3680	J	11600		4750	J	295	J	14800	J	1400	J
Chromium (Hexavalent) ⁽⁴⁾	mg/Kg	20	8.1		27.9		4.1		0.4	U	8.3		10.8		83.2		0.4	U	0.4	U	60.2		38.7	
Cobalt	mg/Kg	590	15.6		128		16.3		5.9	B	75.2		100		103		53.1		5	B	84.7	J	11.9	J
Copper	mg/Kg	45000	121		91.8		180		68		815		60.2		43.5		201		15.9	B	51.3		16.5	
Iron	mg/Kg	--	38300	J	87400	J	34000	J	16500	J	68000	J	88400	J	81900		56700	J	18100	J	75800		31900	
Lead	mg/Kg	800	127		128		206		80.7		98.3		63		91.7		232		37.9		72		26.6	
Magnesium	mg/Kg	--	9670		37900		8390		6690		24700		24000		41900		16800		9230		66400		5180	
Manganese	mg/Kg	5900	729		919		418		205		1180		1030		994		611		174		958		167	
Mercury	mg/Kg	65	2.7		6.8		7.7		2.9		1.9		2.2		0.87		6.9		0.24		0.11		0.28	
Nickel	mg/Kg	23000	49.5		482		57.8		19.9		264		351		376		215		15.8	B	288		28.4	
Potassium	mg/Kg	--	2580		881	B	2040		1770		1090		1030		513	B	2050		2350	B	266	B	2440	
Selenium	mg/Kg	5700	1.9		1.7		2.2		1.1	B	1.3		1.7		0.88	U	2.2		2.1	B	0.74	U	1.1	
Silver	mg/Kg	5700	2.3	J	1.8	J	1.7		0.43	B	1.3		1.3		0.83	J	1.7		0.45	B	0.47	B	0.33	B
Sodium	mg/Kg	--	5260		2460		3300		11900		2750		3030		2650		4810		27000		1880		4630	
Thallium	mg/Kg	79	2.4	B	8.4		1.9		1.1	U	3.8		4.9		4.8		4.2		2.3	U	5.4		0.72	U
Vanadium	mg/Kg	1100	70.9		1590		77.6		24.6		542		688		1080		473		24.1	B	522		42	
Zinc	mg/Kg	110000	305		439		394		147		365		366		380		660		48.8		283	J	66.5	J

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-5 05/09/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-5 05/09/08 2.0-3.0 ft Primary		HRWC-6 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-6 05/02/08 2.0-3.0 ft Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-7 05/02/08 0.0-1.0 ft ⁽²⁾ Duplicate		HRWC-7 05/07/08 2.0-3.0 ft Primary		HRWC-8 05/02/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-8 05/02/08 2.0-3.0 ft Primary		HRWC-9 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-9 04/24/08 2.0-3.0 ft Primary	
Acid Volatile Sulfide/Simultaneously Extracted Metals																								
Acid Volatile Sulfide	umole	--	48.2		30.7		16.2		1.7		16.6		--		0.57	B	27.7		1.1	U	0.2	U	3.4	
Cadmium (SEM)	umol/g	--	0.013		0.029		0.0078		0.0024	B	0.0061		--		0.017		0.013		0.00086	B	0.0024	B	0.0015	B
Copper (SEM)	umol/g	--	1.3	J	1.5	J	1.7		0.91		0.45		--		0.41	J	1.7		0.063	B	0.66		0.025	
Lead (SEM)	umol/g	--	0.5		0.67		0.83		0.51		0.25		--		0.3		1		0.072		0.13		0.097	
Mercury (SEM)	umol/g	--	0.000091	B	0.00021		0.00038		0.000023	U	0.00077		--		0.00029		0.00016		0.000046	U	0.00023	J	0.000015	U
Nickel (SEM)	umol/g	--	0.39		4.9		1.8		0.27		1.3		--		6		1.8		0.18		4.1		0.27	
Silver (SEM)	umol/g	--	0.007		0.0079		0.0043		0.0017	B	0.004		--		0.0049		0.0043		0.00095	U	0.003		0.0003	U
Zinc (SEM)	umol/g	--	3.2	J	6.3	J	4.6		2		2.8		--		4.7	J	6		0.66		3.6	J	0.83	J
Toxicity Characteristic Leaching Procedure ⁽⁵⁾																								
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	--		0.026	U	0.026	U	0.026	U	0.026	U	0.026	U
1,4-Dichlorobenzene	mg/L	7.5	0.0046	U	0.035	J	0.0046	U	0.0046	U	0.0046	U	--		0.0046	U	0.039	J	0.0046	U	0.0046	U	0.0046	U
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	--		0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	--		0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	--		0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U
2-Butanone	mg/L	200	0.033	U	0.033	U	0.029	U	0.029	U	0.029	U	--		0.029	U	0.029	U	0.029	U	0.029	U	0.029	U
Benzene	mg/L	0.5	0.037	U	0.037	U	0.033	U	0.033	U	0.033	U	--		0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Carbon Tetrachloride	mg/L	0.5	0.028	U	0.028	U	0.037	U	0.037	U	0.037	U	--		0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
Chlorobenzene	mg/L	100	0.031	U	0.031	U	0.028	U	0.028	U	0.028	U	--		0.028	U	0.028	U	0.028	U	0.028	U	0.028	U
Chloroform	mg/L	6	0.029	U	0.029	U	0.031	U	0.031	U	0.031	U	--		0.031	U	0.031	U	0.031	U	0.031	U	0.031	U
Cresols	mg/L	200	0.0089	U	0.0089	U	0.035	J	0.0089	U	0.0089	U	--		0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	--		0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	--		0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	--		0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	--		0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	--		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	--		0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.21		0.023	U	0.023	U	--		0.023	U	0.023	U	0.023	U	0.023	U	0.023	U
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	--		0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	--		0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
Arsenic	mg/L	5	0.17	B	0.17	B	0.17	B	0.27	B	0.17	B	--		0.12	B	0.16	B	0.18	B	0.15		0.18	
Barium	mg/L	100	0.19	B	0.25	B	0.36	BJ	0.078	BJ	0.22	BJ	--		0.023	B	0.27	B	0.026	BJ	0.069	B	0.075	B
Cadmium	mg/L	1	0.0044	B	0.0012	U	0.0012	U	0.0012	U	0.0012	U	--		0.0012	U	0.0023	B	0.0012	U	0.0012	U	0.0012	U
Chromium	mg/L	5	0.012	B	0.0011	U	0.0011	U	0.0093	B	0.0081	B	--		0.053	B	0.02	B	0.0025	B	0.19	B	0.16	B
Lead	mg/L	5	0.04	B	0.013	U	0.013	U	0.013	U	0.013	U	--		0.02	B	0.037	B	0.013	U	0.023	B	0.023	B
Mercury	mg/L	0.2	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	--		0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	--		0.015	U	0.015	U	0.015	U	0.026	B	0.015	U
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	--		0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
RCRA Characteristics and Indicators																								
Corrosivity (pH)	SU	2<pH<12.5	7.75		8.29		8.05		7.28		7.81		--		--		8.24		7.69		6.02		9.06	
Cyanide (Reactivity)	mg/Kg	23000	0.63	B	2.8		1.1	J	0.33	U	1.4	J	--		0.36	B	2.7	J	1.8	J	0.67	U	0.22	B
Total Sulfide (Reactivity)	mg/Kg	--	1100		2180		1050		333		445		--		--		184		2350		86.1	U	15.9	U
Ignitability	none	--	No		No		No		No		No		--		--		No		No		No		No	
Total Organic Carbon	mg/Kg	--	63500		46300		23200		151000		18100		--		--		31100		58200		395000		6460	
Oxidation Reduction Potential	mV	--	118		155		171		285		293		--		--		313		273		317		269	
Total Petroleum Hydrocarbons	mg/Kg	--	917		674		402		508		501		--		--		51.8		852		559		16.8	
Percent Solids	%	--	38.6		49.1		61.7		28.9		68.4		--		69.9		65.2		51.4		14.3		77.4	

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08			
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft			
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary			
Volatile Organics																				
1,1,1-Trichloroethane	mg/Kg	4200	0.00097	U	0.0029	U	0.0014	U	0.0031	U	0.0016	U	0.0018	U	0.002	U	0.002	U		
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.0014	U	0.0043	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0022	U	0.0022	U		
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.0017	U	0.005	U	0.0017	U	0.0037	U	0.002	U	0.0022	U	0.0024	U	0.0024	U		
1,1,2-Trichloroethane	mg/Kg	6	0.0021	U	0.0064	U	0.0014	U	0.0032	U	0.0017	U	0.0019	U	0.0021	U	0.0021	U		
1,1-Dichloroethane	mg/Kg	24	0.0011	U	0.0035	U	0.0013	U	0.0029	U	0.0016	U	0.0018	U	0.0019	U	0.0019	U		
1,1-Dichloroethene	mg/Kg	150	0.0017	U	0.0051	U	0.0016	U	0.0035	U	0.0019	U	0.0021	U	0.0023	U	0.0023	U		
1,2,4-Trichlorobenzene	mg/Kg	820	0.0018	U	0.0053	U	0.0014	U	0.0031	U	0.0016	U	0.0019	U	0.002	U	0.002	U		
1,2-Dibromoethane	mg/Kg	0.04	0.0017	U	0.0052	U	0.0014	U	0.0031	U	0.0017	U	0.0019	U	0.002	U	0.002	U		
1,2-Dichlorobenzene	mg/Kg	59000	0.0016	U	0.0048	U	0.0015	U	0.0033	U	0.0018	U	0.002	U	0.0021	U	0.0021	U		
1,2-Dichloroethane	mg/Kg	3	0.0012	U	0.0037	U	0.0015	U	0.0033	U	0.0017	U	0.002	U	0.0021	U	0.0021	U		
1,2-Dichloropropane	mg/Kg	5	0.0011	U	0.0033	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0021	U	0.0021	U		
1,3-Dichlorobenzene	mg/Kg	59000	0.0013	U	0.004	U	0.0014	U	0.0032	U	0.0017	U	0.0019	U	0.002	U	0.002	U		
1,4-Dichlorobenzene	mg/Kg	13	0.0013	U	0.0038	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0021	U	0.0021	U		
2-Butanone	mg/Kg	44000	0.0018	U	0.0053	U	0.0013	U	0.0029	U	0.0016	U	0.014		0.0035	J	0.054			
2-Hexanone	mg/Kg	--	0.0014	U	0.0042	U	0.0011	U	0.0024	U	0.0013	U	0.0014	U	0.0015	U	0.0015	U		
4-Methyl-2-pentanone	mg/Kg	--	0.0013	U	0.0039	U	0.0012	U	0.0026	U	0.0014	U	0.0016	U	0.0017	U	0.0017	U		
Acetone	mg/Kg	--	0.018	J	0.03	U	0.0082	J	0.015	U	0.012	J	0.051		0.16		0.19			
Benzene	mg/Kg	5	0.0013	U	0.0041	U	0.0014	U	0.0031	U	0.0017	U	0.0019	U	0.002	U	0.0025	J		
Bromodichloromethane	mg/Kg	3	0.0011	U	0.0034	U	0.0013	U	0.0029	U	0.0016	U	0.0018	U	0.0019	U	0.0019	U		
Bromoform	mg/Kg	280	0.00088	U	0.0027	U	0.0014	U	0.0031	U	0.0016	U	0.0018	U	0.002	U	0.002	U		
Bromomethane	mg/Kg	59	0.0015	U	0.0045	U	0.0017	U	0.0038	U	0.002	U	0.0023	U	0.0024	U	0.0024	U		
Carbon disulfide	mg/Kg	110000	0.001	U	0.0031	U	0.0017	U	0.0037	U	0.002	U	0.0026	J	0.0025	J	0.0053	J		
Carbon tetrachloride	mg/Kg	2	0.00089	U	0.0027	U	0.0012	U	0.0027	U	0.0014	U	0.0016	U	0.0017	U	0.0017	U		
Chlorobenzene	mg/Kg	7400	0.0015	U	0.0046	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0021	U	0.0021	U		
Chloroethane	mg/Kg	1100	0.0031	U	0.0093	U	0.0019	U	0.0043	U	0.0023	U	0.0026	U	0.0028	U	0.0028	U		
Chloroform	mg/Kg	2	0.0012	U	0.0035	U	0.0014	U	0.0032	U	0.0017	U	0.0019	U	0.002	U	0.002	U		
Chloromethane	mg/Kg	12	0.0017	U	0.0051	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0021	U	0.0021	U		
cis-1,2-Dichloroethene	mg/Kg	560	0.0014	U	0.0042	U	0.0015	U	0.0033	U	0.0017	U	0.0019	U	0.0021	U	0.0021	U		
cis-1,3-Dichloropropene	mg/Kg	7	0.0014	U	0.0041	U	0.0012	U	0.0027	U	0.0014	U	0.0016	U	0.0017	U	0.0017	U		
Cyclohexane	mg/Kg	--	0.00074	U	0.0022	U	0.0013	U	0.003	U	0.0016	U	0.0018	U	0.0019	U	0.0019	U		
Dibromochloromethane	mg/Kg	8	0.0014	U	0.0043	U	0.0013	U	0.0028	U	0.0015	U	0.0017	U	0.0018	U	0.0018	U		
Dibromochloropropane	mg/Kg	--	0.0015	U	0.0045	U	0.0011	U	0.0025	U	0.0013	U	0.0015	U	0.0016	U	0.0016	U		
Dichlorodifluoromethane	mg/Kg	230000	0.0013	U	0.004	U	0.0017	U	0.0039	U	0.002	U	0.0023	U	0.0025	U	0.0025	U		
Ethylbenzene	mg/Kg	110000	0.0013	U	0.0039	U	0.0016	U	0.0036	U	0.0019	U	0.0021	U	0.0023	U	0.0023	U		
Isopropylbenzene	mg/Kg	--	0.0014	U	0.0041	U	0.0014	U	0.0032	U	0.0017	U	0.0058	J	0.0021	U	0.011			
Methyl acetate	mg/Kg	--	0.0018	U	0.0054	U	0.0014	U	0.0032	U	0.0017	U	0.0019	U	0.002	U	0.002	U		
Methylcyclohexane	mg/Kg	--	0.0014	U	0.0044	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0022	U	0.0022	U		
Methylene chloride	mg/Kg	97	0.0086	J	0.023	J	0.001	U	0.0023	U	0.0012	U	0.0014	U	0.0015	U	0.0019	J		
Methyltert-butylether	mg/Kg	320	0.0015	U	0.0045	U	0.0012	U	0.0028	U	0.0015	U	0.0017	U	0.0018	U	0.0018	U		
Styrene	mg/Kg	260	0.0011	U	0.0032	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0022	U	0.0021	U		
Tetrachloroethene	mg/Kg	5	0.0014	U	0.0041	U	0.0018	U	0.0039	U	0.0021	U	0.0023	U	0.0025	U	0.0025	U		
Toluene	mg/Kg	91000	0.0015	U	0.0044	U	0.0011	U	0.0024	U	0.0013	U	0.0014	U	0.0015	U	0.0015	U		
trans-1,2-Dichloroethene	mg/Kg	720	0.0012	U	0.0036	U	0.0016	U	0.0035	U	0.0019	U	0.0021	U	0.0022	U	0.0022	U		
trans-1,3-Dichloropropene	mg/Kg	7	0.0012	U	0.0036	U	0.0012	U	0.0026	U	0.0014	U	0.0016	U	0.0017	U	0.0017	U		
Trichloroethene	mg/Kg	20	0.0013	U	0.004	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0022	U	0.0022	U		
Trichlorofluoromethane	mg/Kg	340000	0.0018	U	0.0055	U	0.0022	U	0.0049	U	0.0026	U	0.0029	U	0.0031	U	0.0031	U		
Vinyl chloride	mg/Kg	2	0.00094	U	0.0028	U	0.0015	U	0.0034	U	0.0018	U	0.002	U	0.0022	U	0.0021	U		
Xylene (total)	mg/Kg	170000	0.0045	U	0.013	U	0.0048	U	0.011	U	0.0056	U	0.0084	J	0.0068	U	0.012	J		

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08			
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft			
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary			
Semivolatile Organics																				
1,1'-Biphenyl	mg/Kg	34000	0.81		0.12	U	0.031	U	0.055	U	0.17	J	0.81		0.17	J	0.27	J		
2,2'-oxybis(1-chloropropane)	mg/Kg	--	0.041	U	0.14	U	0.033	U	0.06	U	0.026	U	0.04	U	0.035	U	0.04	U		
2,4,5-Trichlorophenol	mg/Kg	68000	0.056	U	0.19	U	0.046	U	0.083	U	0.035	U	0.056	U	0.048	U	0.054	U		
2,4,6-Trichlorophenol	mg/Kg	74	0.055	U	0.18	U	0.045	U	0.081	U	0.034	U	0.054	U	0.047	U	0.053	U		
2,4-Dichlorophenol	mg/Kg	2100	0.02	U	0.067	U	0.017	U	0.03	U	0.013	U	0.02	U	0.017	U	0.02	U		
2,4-Dimethylphenol	mg/Kg	14000	0.029	U	10		0.024	U	0.043	U	0.023	J	0.029	U	0.025	U	0.028	U		
2,4-Dinitrophenol	mg/Kg	1400	0.81	U	2.7	U	0.66	U	1.2	U	0.5	U	0.8	U	0.69	U	0.78	U		
2,4-Dinitrotoluene	mg/Kg	3	0.035	U	0.12	U	0.029	U	0.052	U	0.022	U	0.035	U	0.03	U	0.034	U		
2,6-Dinitrotoluene	mg/Kg	3	0.044	U	0.15	U	0.036	U	0.065	U	0.027	U	0.043	U	0.038	U	0.042	U		
2-Chloronaphthalene	mg/Kg	--	0.039	U	0.13	U	0.032	U	0.058	U	0.025	U	0.039	U	0.034	U	0.038	U		
2-Chlorophenol	mg/Kg	2200	0.034	U	0.11	U	0.028	U	0.05	U	0.021	U	0.034	U	0.029	U	0.033	U		
2-Methylnaphthalene	mg/Kg	2400	1.8		0.22	J	0.031	J	0.055	U	0.44		11		0.29	J	3.3			
2-Methylphenol	mg/Kg	3400	0.043	U	37		0.035	U	0.063	U	0.027	U	0.042	U	0.037	U	0.041	U		
2-Nitroaniline	mg/Kg	23000	0.041	U	0.14	U	0.033	U	0.06	U	0.026	U	0.041	U	0.035	U	0.04	U		
2-Nitrophenol	mg/Kg	--	0.054	U	0.18	U	0.044	U	0.08	U	0.034	U	0.054	U	0.047	U	0.052	U		
3,3'-Dichlorobenzidine	mg/Kg	4	0.15	U	0.51	U	0.13	U	0.23	U	0.096	U	0.15	U	0.13	U	0.15	U		
3-Nitroaniline	mg/Kg	--	0.058	U	0.19	U	0.048	U	0.086	U	0.037	U	0.058	U	0.05	U	0.057	U		
4,6-Dinitro-2-methylphenol	mg/Kg	68	0.48	U	1.6	U	0.39	U	0.71	U	0.3	U	0.48	U	0.41	U	0.47	U		
4-Bromophenylphenyl ether	mg/Kg	--	0.031	U	0.1	U	0.025	U	0.045	U	0.019	U	0.03	U	0.026	U	0.03	U		
4-Chloro-3-methylphenol	mg/Kg	--	0.042	U	0.14	U	0.034	U	0.061	U	0.026	U	0.041	U	0.036	U	0.04	U		
4-Chloroaniline	mg/Kg	--	0.059	U	0.19	U	0.048	U	0.086	U	0.037	U	0.058	U	0.05	U	0.057	U		
4-Chlorophenyl phenyl ether	mg/Kg	--	0.034	U	0.11	U	0.028	U	0.05	U	0.021	U	0.033	U	0.029	U	0.033	U		
4-Methylphenol	mg/Kg	340	0.16	J	200		0.035	U	0.063	U	0.13	J	0.31	J	0.084	J	0.18	J		
4-Nitroaniline	mg/Kg	--	0.029	U	0.095	U	0.023	U	0.042	U	0.018	U	0.028	U	0.025	U	0.028	U		
4-Nitrophenol	mg/Kg	--	0.053	U	0.18	U	0.043	U	0.078	U	0.033	U	0.053	U	0.046	U	0.051	U		
Acenaphthene	mg/Kg	37000	2.8		0.47	J	0.029	U	0.052	U	2.3		9.8		1.3		4.5			
Acenaphthylene	mg/Kg	300000	10		1.7	J	0.051	J	0.058	J	0.31	J	5.2		3.6		3.1			
Acetophenone	mg/Kg	5	0.041	U	0.14	U	0.034	U	0.061	U	0.026	U	0.041	U	0.036	U	0.04	U		
Anthracene	mg/Kg	30000	19		1.9	J	0.044	J	0.057	U	5.7		17		4.5		9.1			
Atrazine	mg/Kg	2400	0.047	U	0.16	U	0.038	U	0.069	U	0.029	U	0.046	U	0.04	U	0.045	U		
Benzaldehyde	mg/Kg	68000	0.072	U	0.24	U	0.059	U	0.11	U	0.045	U	0.072	U	0.074	J	0.07	U		
Benzo(a)anthracene	mg/Kg	2	73		5.2		0.039	J	0.078	J	9.4		19		14		13			
Benzo(a)pyrene	mg/Kg	0.2	55		4.3		0.017	U	0.041	J	8.5		15		12		9.9			
Benzo(b)fluoranthene	mg/Kg	2	72		4.9		0.021	U	0.047	J	11		16		14		12			
Benzo(ghi)perylene	mg/Kg	30000	20		2.1	J	0.019	U	0.034	U	5.3		7.1		8.1		4.6			
Benzo(k)fluoranthene	mg/Kg	23	0.022	U	0.072	U	0.018	U	0.032	U	0.014	U	0.022	U	6.2		0.021	U		
Bis(2-chloroethoxy)methane	mg/Kg	--	0.032	U	0.11	U	0.026	U	0.047	U	0.02	U	0.031	U	0.027	U	0.031	U		
Bis(2-chloroethyl)ether	mg/Kg	2	0.015	U	0.051	U	0.013	U	0.023	U	0.0096	U	0.015	U	0.013	U	0.015	U		
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.052	U	0.17	U	0.043	U	0.077	U	0.21	J	0.052	U	1.6		0.37	J		
Butyl benzyl phthalate	mg/Kg	14000	0.055	U	0.18	U	0.045	U	0.08	U	0.034	U	0.054	U	0.047	U	0.053	U		
Caprolactam	mg/Kg	340000	0.13	U	0.43	U	0.11	U	0.19	U	0.081	U	0.13	U	0.11	U	0.12	U		
Carbazole	mg/Kg	96	0.89		0.15	J	0.023	U	0.041	U	1.4		0.4	J	0.68		0.22	J		
Chrysene	mg/Kg	230	67		4.8		0.028	J	0.069	J	8.3		17		12		11			
Dibenzo(a,h)anthracene	mg/Kg	0.2	5.7		0.31	J	0.035	U	0.064	U	1.3		1.5		2.5		1.3			
Dibenzofuran	mg/Kg	--	2.5		0.33	J	0.031	U	0.055	U	1.1		1.6		0.82		1.2			
Diethyl phthalate	mg/Kg	550000	0.061	U	0.2	U	0.05	U	0.09	U	0.038	U	0.06	U	0.052	U	0.059	U		
Dimethyl phthalate	mg/Kg	--	0.039	U	0.13	U	0.032	U	0.057	U	0.024	U	0.038	U	0.033	U	0.037	U		
Di-n-butyl phthalate	mg/Kg	68000	0.11	U	0.37	U	0.092	U	0.17	U	0.071	U	0.11	U	0.097	U	0.11	U		
Di-n-octyl phthalate	mg/Kg	27000	0.048	U	0.16	U	0.039	U	0.07	U	0.03	U	0.047	U	0.041	U	0.046	U		

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-10 07/29/08 2.0-3.0 ft Primary		HRWC-11 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-11 04/23/08 2.0-3.0 ft Primary		HRWC-12 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-12 04/24/08 2.0-3.0 ft Primary		HRWC-13 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-13 04/23/08 2.0-3.0 ft Primary	
Semivolatile Organics (Continued)																		
Fluoranthene	mg/Kg	24000	150		12		0.06	J	0.15	J	23		31		43		20	
Fluorene	mg/Kg	24000	2.5		0.46	J	0.027	U	0.049	U	2		10		1.7		4.8	
Hexachlorobenzene	mg/Kg	1	0.041	U	0.14	U	0.033	U	0.06	U	0.026	U	0.041	U	0.035	U	0.04	U
Hexachlorobutadiene	mg/Kg	25	0.042	U	0.14	U	0.034	U	0.061	U	0.026	U	0.041	U	0.036	U	0.04	U
Hexachlorocyclopentadiene	mg/Kg	110	0.031	U	0.1	U	0.026	U	0.046	U	0.02	U	0.031	U	0.027	U	0.03	U
Hexachloroethane	mg/Kg	140	0.03	U	0.1	U	0.025	U	0.045	U	0.019	U	0.03	U	0.026	U	0.029	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	20		1.8	J	0.02	U	0.036	U	4.6		5.8		8		4.2	
Isophorone	mg/Kg	2000	0.038	U	0.13	U	0.031	U	0.056	U	0.024	U	0.038	U	0.033	U	0.037	U
Naphthalene	mg/Kg	17	7.6		0.86	J	0.11	J	0.088	J	1.1		10		2.4		3.9	
Nitrobenzene	mg/Kg	340	0.017	U	0.056	U	0.014	U	0.025	U	0.011	U	0.017	U	0.015	U	0.016	U
N-Nitrosodiphenylamine	mg/Kg	390	0.037	U	0.12	U	0.03	U	0.054	U	0.023	U	0.037	U	0.032	U	0.036	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.017	U	0.055	U	0.014	U	0.025	U	0.01	U	0.016	U	0.014	U	0.016	U
Pentachlorophenol	mg/Kg	10	0.051	U	0.17	U	0.041	U	0.075	U	0.032	U	0.05	U	0.044	U	0.049	U
Phenanthrene	mg/Kg	300000	15		1.8	J	0.048	J	0.077	J	16		35		11		18	
Phenol	mg/Kg	210000	0.15	J	290		0.034	U	0.061	U	0.04	J	0.041	U	0.14	J	0.08	J
Pyrene	mg/Kg	18000	120		10		0.05	J	0.11	J	16		30		19		17	
Polychlorinated Dioxins and Furans																		
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.052	J	0.34	U	0.0011	QJ	0.011	J	0.018	QJ	0.049	J	0.12		0.023	QJ
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.65		0.077	J	0.037	B	0.0037	BJ	0.54		0.12		4.7	B	0.11	B
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.029	J	0.34	U	0.0013	J	0.015	U	0.024	J	0.0088	J	0.16		0.0041	QJ
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.1	U	0.34	U	0.0084	U	0.015	U	0.064	U	0.1	U	0.088	U	0.099	U
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.22		0.022	QJ	0.013	B	0.0013	BJ	0.17		0.045	J	1.4	QB	0.04	BJ
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0055	QJ	0.34	U	0.0084	U	0.015	U	0.064	U	0.1	U	0.015	QJ	0.099	U
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.032	J	0.34	U	0.0021	J	0.015	U	0.029	QJ	0.01	QJ	0.22		0.0085	J
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0047	J	0.34	U	0.0084	U	0.015	U	0.064	U	0.0069	J	0.005	J	0.099	U
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.1	U	0.34	U	0.0084	U	0.015	U	0.064	U	0.1	U	0.088	U	0.099	U
1,2,3,7,8-PCDD	ug/Kg	--	0.1	U	0.34	U	0.0084	U	0.015	U	0.064	U	0.0049	J	0.0036	QJ	0.099	U
1,2,3,7,8-PCDF	ug/Kg	--	0.0063	QJ	0.34	U	0.00022	QJ	0.015	U	0.003	QJ	0.0065	J	0.035	J	0.099	U
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.011	J	0.34	U	0.00027	QJ	0.015	U	0.0086	QJ	0.0059	QJ	0.077	QJ	0.0034	QJ
2,3,4,7,8-PCDF	ug/Kg	--	0.02	QJ	0.34	U	0.001	QJ	0.015	U	0.013	QJ	0.0099	QJ	0.1	Q	0.0032	QJ
2,3,7,8-TCDD	ug/Kg	--	0.021	U	0.068	U	0.0017	U	0.003	U	0.013	U	0.02	U	0.093	Q	0.019	QJ
2,3,7,8-TCDF	ug/Kg	--	0.02	QJ	0.068	U	0.00045	QJ	0.003	U	0.013	U	0.017	J	0.0084	QJ	0.0085	QJ
OCDD	ug/Kg	--	1.7	B	0.34	BJ	0.013	BJ	0.36	B	1.3	B	2.1	B	1.6	B	0.76	B
OCDF	ug/Kg	--	1.1	B	0.13	QBJ	0.075	B	0.0069	BJ	0.79	B	0.19	BJ	6.8	B	0.15	BJ
Total HpCDD	ug/Kg	--	0.14	J	0.021	QJ	0.0026	QJ	0.032		0.045	QJ	0.14	J	0.34		0.051	QJ
Total HpCDF	ug/Kg	--	0.74		0.077	J	0.042	QB	0.0037	BJ	0.63		0.14		5.3	B	0.12	QJ
Total HxCDD	ug/Kg	--	0.06	QJ	0.34	U	0.0084	U	0.0062	QJ	0.021	QJB	0.06	QJ	0.13	QJ	0.014	QJ
Total HxCDF	ug/Kg	--	0.45	Q	0.04	QJ	0.028	QB	0.0023	QJB	0.38	Q	0.1	QJ	3.2	QB	0.077	QJB
Total PeCDD	ug/Kg	--	0.019	QJ	0.34	U	0.002	QJ	0.0013	QJ	0.0049	J	0.019	QJ	0.16	QJ	0.099	U
Total PeCDF	ug/Kg	--	0.2	QJ	0.34	U	0.013	QJ	0.00065	QJ	0.14	QJ	0.079	QJ	1.3	SQ	0.034	QJS
Total TCDD	ug/Kg	--	0.013	J	0.068	U	0.0011	J	0.00023	QJ	0.0048	J	0.011	QJ	0.21	Q	0.019	QJ
Total TCDF	ug/Kg	--	0.12	Q	0.068	U	0.0088	Q	0.003	U	0.068	Q	0.1	Q	1	SQ	0.039	QJ
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents)																		
1,2,3,4,6,7,8-HpCDD	0.01	--	5.2E-04		--		--		1.1E-04		--		4.9E-04		1.2E-03		--	
1,2,3,4,6,7,8-HpCDF	0.01	--	6.5E-03		7.7E-04		3.7E-04		3.7E-05		5.4E-03		1.2E-03		4.7E-02		1.1E-03	
1,2,3,4,7,8,9-HpCDF	0.01	--	2.9E-04		--		1.3E-05		--		2.4E-04		8.8E-05		1.6E-03		--	
1,2,3,4,7,8-HxCDD	0.10	--	--		--		--		--		--		--		--		--	
1,2,3,4,7,8-HxCDF	0.10	--	2.2E-02		--		1.3E-03		1.3E-04		1.7E-02		4.5E-03		--		4.0E-03	
1,2,3,6,7,8-HxCDD	0.10	--	--		--		--		--		--		--		--		--	

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-10 07/29/08 2.0-3.0 ft Primary		HRWC-11 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-11 04/23/08 2.0-3.0 ft Primary		HRWC-12 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-12 04/24/08 2.0-3.0 ft Primary		HRWC-13 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-13 04/23/08 2.0-3.0 ft Primary	
1,2,3,6,7,8-HxCDF	0.10	--	3.2E-03		--		2.1E-04		--		--		--		2.2E-02		8.5E-04	
Polychlorinated Dioxins/Furans (2,3,7,8 Equivalents) (Continued)																		
1,2,3,7,8,9-HxCDD	0.10	--	4.7E-04		--		--		--		--		6.9E-04		5.0E-04		--	
1,2,3,7,8,9-HxCDF	0.10	--	--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDD	1.00	--	--		--		--		--		--		4.9E-03		--		--	
1,2,3,7,8-PCDF	0.05	--	--		--		--		--		--		3.3E-04		1.8E-03		--	
2,3,4,6,7,8-HxCDF	0.10	--	1.1E-03		--		--		--		--		--		--		--	
2,3,4,7,8-PCDF	0.50	--	--		--		--		--		--		--		--		--	
2,3,7,8-TCDD	1.00	--	--		--		--		--		--		--		--		--	
2,3,7,8-TCDF	0.10	--	--		--		--		--		--		1.7E-03		--		--	
OCDD	0.0001	--	1.7E-04		3.4E-05		1.3E-06		3.6E-05		1.3E-04		2.1E-04		1.6E-04		7.6E-05	
OCDF	0.0001	--	1.1E-04		--		7.5E-06		6.9E-07		7.9E-05		1.9E-05		6.8E-04		1.5E-05	
Total 2,3,7,8-TCDD Equivalents ⁽³⁾	ug/Kg	1	3.4E-02		8.0E-04		1.9E-03		3.1E-04		2.3E-02		1.4E-02		7.5E-02		6.0E-03	
Polychlorinated Biphenyls (Aroclors)																		
Aroclor 1016	mg/Kg	1	0.0051	U	0.017	U	0.0042	U	0.0075	U	0.0032	U	0.005	U	0.0043	U	0.0049	U
Aroclor 1221	mg/Kg	1	0.0065	U	0.022	U	0.0053	U	0.0096	U	0.0041	U	0.0065	U	0.0056	U	0.0063	U
Aroclor 1232	mg/Kg	1	0.1	PG	0.019	U	0.0048	U	0.0086	U	0.056		0.0058	U	1		0.32	
Aroclor 1242	mg/Kg	1	0.0056	U	0.018	U	0.0046	U	0.0082	U	0.0035	U	0.0055	U	0.0047	U	0.0054	U
Aroclor 1248	mg/Kg	1	0.0032	U	0.011	U	0.0026	U	0.0048	U	0.002	U	0.0032	U	0.0028	U	0.0031	U
Aroclor 1254	mg/Kg	1	0.0049	U	0.016	U	0.004	U	0.0072	U	0.014	J	0.0048	U	0.2		0.056	
Aroclor 1260	mg/Kg	1	0.0049	U	0.016	U	0.004	U	0.0072	U	0.0072	J	0.0048	U	0.1		0.031	J
Aroclor 1262	mg/Kg	1	0.0075	U	0.025	U	0.0061	U	0.011	U	0.0047	U	0.0074	U	0.0064	U	0.0073	U
Aroclor 1268	mg/Kg	1	0.0044	U	0.015	U	0.0036	U	0.0065	U	0.0028	U	0.0044	U	0.0037	U	0.0043	U
Polychlorinated Biphenyls (Congeners/Homoloques)																		
PCB 1	mg/Kg	1	0.00014	B	2.5E-05	QBJ	0.000011	BJ	0.000011	BJ	0.000024	QJ	0.00011	BJ	0.00018	J	0.0008	U
PCB 2 (BZ)	mg/Kg	1	0.00006	QBJ	2.1E-05	BJ	7.5E-06	BJ	0.000014	BJ	0.000064	U	0.000095	BJ	0.00071	U	0.0008	U
PCB 3 (BZ)	mg/Kg	1	0.00013		2.8E-05	J	9.4E-06	J	0.00001	J	0.000064	U	0.00019	J	0.00071	U	0.0008	U
PCB 4	mg/Kg	1	6.8E-05	QBJ	4.5E-05	QBJ	0.000017	QBJ	0.00001	QBJ	0.000095	QBJ	0.000022	QBJ	0.0012	QBJ	0.00013	QBJ
PCB 5 (BZ)	mg/Kg	1	1.8E-05	QJ	5.9E-06	QJ	6.9E-06	QJ	2.2E-06	QJ	0.000064	U	0.0002	U	0.000072	QJ	0.0008	U
PCB 6	mg/Kg	1	5.4E-05	QBJ	3.2E-05	QBJ	0.000015	QBJ	5.7E-06	QBJ	0.000058	QBJ	0.000031	QBJ	0.00056	QBJ	0.0008	U
PCB 7 (BZ)	mg/Kg	1	1.6E-05	QBJ	6.5E-06	QBJ	4.3E-06	QBJ	4.6E-06	QBJ	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 8	mg/Kg	1	0.00012	QBJ	8.7E-05	BJ	0.000037	QB	8.8E-06	QBJ	0.00016	QB	0.00003	QBJ	0.0026	QB	0.00022	QBJ
PCB 9 (BZ)	mg/Kg	1	3.7E-05	QBJ	1.4E-05	QBJ	0.000011	QBJ	5.9E-06	QBJ	0.000035	QJ	0.000019	QBJ	0.00026	QJ	0.0008	U
PCB 10 (BZ)	mg/Kg	1	1.8E-05	QJ	9.2E-06	QJ	0.000004	QJ	5.6E-06	QJ	8.7E-06	QJ	0.00002	QJ	0.00071	U	0.0008	U
PCB 11 (BZ)	mg/Kg	1	0.00017	QBJ	8.3E-05	QBJ	0.000034	QBJ	0.000016	QBJ	0.00016	QB	0.000098	QBJ	0.0019	QB	0.00089	QBJ
PCB 12 (BZ)	mg/Kg	1	0.0001	QBCJ	3.7E-05	QBCJ	0.000025	QBC	7.3E-06	QBCJ	0.000071	QC	0.000057	QBCJ	0.00063	QCJ	0.0008	U
PCB 13 (BZ)	mg/Kg	1	0.0001	QBCJ	3.7E-05	QBCJ	0.000025	QBC	7.3E-06	QBCJ	0.000071	QC	0.000057	QBCJ	0.00063	QCJ	0.0008	U
PCB 14 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	3.5E-06	QJ	4.5E-06	QJ	0.000064	U	0.000018	QJ	0.00071	U	0.0008	U
PCB 15	mg/Kg	1	0.00032	QB	0.00012	QB	0.000048	QB	9.6E-06	QBJ	0.00023	QB	0.0002	QBJ	0.0022	QB	0.00025	QBJ
PCB 16	mg/Kg	1	0.00013	B	8.6E-05	B	0.000034	B	0.000009	QBJ	0.00012	B	0.0002	U	0.0032	B	0.0008	U
PCB 17 (BZ)	mg/Kg	1	0.00013	B	9.9E-05	B	0.000023	B	8.5E-06	QBJ	0.00017	B	0.0002	U	0.0043	B	0.00036	BJ
PCB-18	mg/Kg	1	0.00028	B	0.00023	QB	0.000074	B	0.000017	BJ	0.00041	B	0.000065	QBJ	0.011	B	0.00092	BJ
PCB 19 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	9.3E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00062	J	0.0008	U
PCB 20 (BZ)	mg/Kg	1	0.00053	BC	0.00037	BC	0.00012	BC	0.000023	BCJ	0.00072	BC	0.0001	QBCJ	0.015	BC	0.0014	BCJ
PCB 21 (BZ)	mg/Kg	1	0.00014	BC	8.3E-05	QBC	0.000053	BC	8.1E-06	BCJ	0.00016	BC	0.000053	QBCJ	0.0057	BC	0.00043	QBCJ
PCB 22	mg/Kg	1	0.00014	B	8.9E-05	B	0.00005	B	5.5E-06	BJ	0.00017	B	0.000033	QBJ	0.0042	B	0.00031	QBJ
PCB 23 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	2.4E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 24 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	5.9E-06	QJ	3.6E-06	QJ	0.000064	U	0.0002	U	0.000071	QJ	0.0008	U
PCB 25 (BZ)	mg/Kg	1	6.5E-05	QBJ	4.1E-05	BJ	0.000015	BJ	0.00003	U	0.000079		0.0002	U	0.00091		0.0008	U

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08	
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft	
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																		
PCB 26 (BZ)	mg/Kg	1	0.00013	QBC	8.3E-05	BC	0.000029	BC	7.6E-06	QBCJ	0.00014	BC	0.000049	QBCJ	0.0018	BC	0.00018	QBCJ
PCB 27 (BZ)	mg/Kg	1	3.4E-05	QJ	2.1E-05	J	6.4E-06	QJ	0.00003	U	0.000024	QJ	0.0002	U	0.00054	J	0.0008	U
PCB 28	mg/Kg	1	0.00053	BC	0.00037	BC	0.00012	BC	0.000023	BCJ	0.00072	BC	0.0001	QBJ	0.015	BC	0.0014	BCJ
PCB 29 (BZ)	mg/Kg	1	0.00013	QBC	8.3E-05	BC	0.000029	BC	7.6E-06	QBCJ	0.00014	BC	0.000049	QBCJ	0.0018	BC	0.00018	QBCJ
PCB 30 (BZ)	mg/Kg	1	0.00021	U	0.00014	U	2.2E-06	QJ	0.000061	U	0.00013	U	0.00041	U	0.0014	U	0.0016	U
PCB 31	mg/Kg	1	0.00046	B	0.00029	B	0.00014	B	0.000015	BJ	0.00056	B	0.00009	QBJ	0.012	B	0.0013	BJ
PCB 32 (BZ)	mg/Kg	1	0.00011	B	7.4E-05	QB	0.000022	B	6.4E-06	QBJ	0.00012	B	0.0002	U	0.0026	B	0.00021	QBJ
PCB 33	mg/Kg	1	0.00014	BC	8.3E-05	QBC	0.000053	BC	8.1E-06	BCJ	0.00016	BC	0.000053	QBCJ	0.0057	BC	0.00043	QBCJ
PCB 34 (BZ)	mg/Kg	1	1.5E-05	QJ	6.5E-06	QJ	4.3E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 35 (BZ)	mg/Kg	1	3.7E-05	QJ	1.7E-05	QJ	9.5E-06	J	0.00003	U	0.000018	J	0.000044	QJ	0.00017	QJ	0.0008	U
PCB 36 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 37	mg/Kg	1	0.00019	B	0.00011	B	0.000063	B	7.9E-06	QBJ	0.0002		0.000061	BJ	0.0029		0.00026	QJ
PCB 38 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 39 (BZ)	mg/Kg	1	1.1E-05	QJ	6.8E-05	U	3.9E-06	QJ	0.000002	QJ	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 40 (BZ)	mg/Kg	1	0.00022	QBC	0.00016	QBC	0.000056	BC	9.3E-06	QBCJ	0.00029	BC	0.000054	BCJ	0.0069	BC	0.00093	QBC
PCB 41	mg/Kg	1	2.8E-05	J	6.8E-05	U	4.4E-06	J	0.00003	U	7.6E-06	QBJ	0.0002	U	0.00067	QBJ	0.0008	U
PCB 42 (BZ)	mg/Kg	1	0.00017	B	0.00011	B	0.000031	QB	0.00003	U	0.0002	B	0.0002	U	0.0046	B	0.00054	BJ
PCB 43 (BZ)	mg/Kg	1	0.00064	C	8.7E-06	CJ	4.4E-06	QCJ	0.00003	U	0.000019	QCJ	0.00015	QCJ	0.00039	QCJ	0.0008	U
PCB 44	mg/Kg	1	0.00052	BC	0.00035	BC	0.00012	BC	0.000021	BCJ	0.00072	BC	0.000089	QBCJ	0.015	BC	0.0019	BC
PCB 45 (BZ)	mg/Kg	1	9.8E-05	BCJ	7.1E-05	BC	0.000027	BC	5.6E-06	QBCJ	0.00012	BC	0.0002	U	0.0025	BC	0.00022	QBCJ
PCB 46 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000009	QJ	0.00003	U	0.00002	QJ	0.0002	U	0.00078		0.0008	U
PCB 47 (BZ)	mg/Kg	1	0.00052	BC	0.00035	BC	0.00012	BC	0.000021	BCJ	0.00072	BC	0.000089	QBCJ	0.015	BC	0.0019	BC
PCB 48 (BZ)	mg/Kg	1	0.0001	BJ	6.4E-05	BJ	0.000018	B	0.00003	U	0.0001		0.0002	U	0.0033		0.00031	QJ
PCB 49	mg/Kg	1	0.00042	B	0.00027	B	0.000083	B	0.000012	QBJ	0.00054	B	0.000083	QBJ	0.011	B	0.0012	QB
PCB 50 (BZ)	mg/Kg	1	6.8E-05	BCJ	4.7E-05	QBCJ	0.000022	BC	4.9E-06	QBCJ	0.00008	QBC	0.0002	U	0.0018	BC	0.0008	U
PCB 51 (BZ)	mg/Kg	1	9.8E-05	BCJ	7.1E-05	BC	0.000027	BC	5.6E-06	QBCJ	0.00012	BC	0.0002	U	0.0025	BC	0.00022	QBCJ
PCB 52	mg/Kg	1	0.0001	U	0.0004	B	0.00014	B	0.000027	BJ	0.00078	B	0.0002	U	0.018	B	0.0026	B
PCB 53 (BZ)	mg/Kg	1	6.8E-05	BCJ	4.7E-05	QBCJ	0.000022	BC	4.9E-06	QBCJ	0.00008	QB	0.0002	U	0.0018	BC	0.0008	U
PCB 54 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 55 (BZ)	mg/Kg	1	0.00061		6.8E-05	U	3.7E-06	J	0.00003	U	0.000015	J	0.0002	U	0.00012	QJ	0.0008	U
PCB 56 (BZ)	mg/Kg	1	0.00028		0.00017		0.000077		6.8E-06	QJ	0.0003	B	0.0002	U	0.0067	B	0.0011	B
PCB 57 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 58 (BZ)	mg/Kg	1	0.0001	U	8E-06	J	5.1E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00026	QJ	0.0008	U
PCB 59 (BZ)	mg/Kg	1	5.4E-05	QCJ	3.1E-05	CJ	0.000012	QCJ	0.00003	U	0.000051	QCJ	0.000019	QCJ	0.0012	C	0.00012	QCJ
PCB 60 (BZ)	mg/Kg	1	0.00009	QJ	5.9E-05	QJ	0.000019	Q	3.1E-06	QJ	0.000087	QB	0.0002	U	0.0023	B	0.00054	BJ
PCB 61 (BZ)	mg/Kg	1	0.00021	U	0.00014	U	0.000034	U	0.000061	U	0.00013	U	0.00041	U	0.0014	U	0.0016	U
PCB 62 (BZ)	mg/Kg	1	5.4E-05	QCJ	3.1E-05	CJ	0.000012	QCJ	0.00003	U	0.000051	QCJ	0.000019	QCJ	0.0012	C	0.00012	QCJ
PCB 63 (BZ)	mg/Kg	1	3.1E-05	J	6.8E-05	U	5.8E-06	J	0.00003	U	0.000016	QJ	0.0002	U	0.00051	J	0.0008	U
PCB 64	mg/Kg	1	0.00021	B	0.00013	B	0.000043	B	6.4E-06	QBJ	0.00029	B	0.000041	QBJ	0.0064	B	0.00087	B
PCB 65 (BZ)	mg/Kg	1	0.00052	BC	0.00035	BC	0.00012	BC	0.000021	BCJ	0.00072	BC	0.000089	QBCJ	0.015	BC	0.0019	BC
PCB 66 (BZ)	mg/Kg	1	0.0001	U	0.00034	B	0.00011	B	0.000017	BJ	0.00068	B	0.000086	QBJ	0.015	B	0.0026	B
PCB 67 (BZ)	mg/Kg	1	0.0001	U	0.00001	QJ	3.9E-06	J	0.00003	U	0.000014	QJ	0.0002	U	0.00032	J	0.0008	U
PCB 68 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	2.5E-06	QJ	4.3E-06	QJ	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 69 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 70	mg/Kg	1	0.00088	BC	0.00053	BC	0.00016	BC	0.000025	BCJ	0.001	BC	0.00012	BCJ	0.025	BC	0.0045	BC
PCB 71 (BZ)	mg/Kg	1	0.00022	QBC	0.00016	QBC	0.000056	BC	9.3E-06	QBCJ	0.00029	BC	0.000054	BCJ	0.0069	BC	0.00093	QBC
PCB 72 (BZ)	mg/Kg	1	0.0001	U	8.9E-06	J	4.4E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00011	QJ	0.0008	U
PCB 73 (BZ)	mg/Kg	1	0.00064	C	8.7E-06	CJ	4.4E-06	QCJ	0.00003	U	0.000019	QCJ	0.00015	QCJ	0.00039	QCJ	0.0008	U
PCB 74	mg/Kg	1	0.00088	BC	0.00053	BC	0.00016	BC	0.000025	BCJ	0.001	BC	0.00012	BCJ	0.025	BC	0.0045	BC

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08	
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft	
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																		
PCB 75	mg/Kg	1	5.4E-05	QCJ	3.1E-05	CJ	0.000012	QCJ	0.00003	U	0.000051	QCJ	0.000019	QCJ	0.0012	C	0.00012	QCJ
PCB 76 (BZ)	mg/Kg	1	0.00088	BC	0.00053	BC	0.00016	BC	0.000025	BCJ	0.001	BC	0.00012	BCJ	0.025	BC	0.0045	BC
PCB 77	mg/Kg	1	0.00011	Q	5.7E-05	J	0.000029		0.00003	U	0.000082		0.000039	QJ	0.0013		0.0002	QJ
PCB 78 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 79 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	4.2E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.0001	J	0.0008	U
PCB 80 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 81	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 82 (BZ)	mg/Kg	1	0.00011		6.8E-05	Q	0.000032		0.00003	U	0.000072	QB	0.0002	U	0.002	B	0.0008	U
PCB 83 (BZ)	mg/Kg	1	0.00044	C	0.00026	C	0.000099	C	0.000017	CJ	0.00052	BC	0.00007	QCJ	0.0094	BC	0.002	BC
PCB 84	mg/Kg	1	0.00017	Q	0.00011		0.000049		7.8E-06	J	0.00016	B	0.0002	U	0.0043	B	0.00049	QBJ
PCB 85 (BZ)	mg/Kg	1	0.00015	QC	8.3E-05	C	0.00003	QC	5.3E-06	QCJ	0.00012	QBC	0.0002	U	0.0024	BQC	0.00047	QBCJ
PCB 86 (BZ)	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 87	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 88 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 89 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00017	QJ	0.0008	U
PCB 90 (BZ)	mg/Kg	1	0.00054	BC	0.00036	BC	0.00013	BC	0.000034	BC	0.00065	BC	0.000095	BCJ	0.013	BC	0.0031	BC
PCB 91 (BZ)	mg/Kg	1	0.00012		7.1E-05		0.000034		0.00003	U	0.00009	QB	0.0002	U	0.002	B	0.00034	BJ
PCB 92 (BZ)	mg/Kg	1	0.00012		0.00008		0.000033		7.4E-06	J	0.00011	Q	0.0002	U	0.0021		0.00044	J
PCB 93 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 94 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000005	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 95 (BZ)	mg/Kg	1	0.00044	C	0.00023	QC	0.00013	C	0.000022	QCJ	0.00052	BC	0.0002	U	0.011	BC	0.0016	BC
PCB 96 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	4.6E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 97	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 98 (BZ)	mg/Kg	1	0.0001	U	2.7E-05	QCJ	0.000013	QCJ	0.00003	U	0.000037	CJ	0.0002	U	0.00051	QCJ	0.0008	U
PCB 99	mg/Kg	1	0.00044	C	0.00026	C	0.000099	C	0.000017	CJ	0.00052	BC	0.00007	QCJ	0.0094	BC	0.002	BC
PCB 100 (BZ)	mg/Kg	1	0.00044	C	0.00023	QC	0.00013	C	0.000022	QCJ	0.00052	BC	0.0002	U	0.011	BC	0.0016	BC
PCB 101	mg/Kg	1	0.00054	BC	0.00036	BC	0.00013	BC	0.000034	B	0.00065	BC	0.000095	BCJ	0.013	BC	0.0031	BC
PCB 102 (BZ)	mg/Kg	1	0.0001	U	2.7E-05	QCJ	0.000013	QCJ	0.00003	U	0.000037	CJ	0.0002	U	0.00051	QCJ	0.0008	U
PCB 103 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 104 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 105	mg/Kg	1	0.00037	Q	0.00017	Q	0.00024	Q	0.00001	J	0.00026	QB	0.000057	QJ	0.0041	QB	0.0011	QB
PCB 106 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 107 (BZ)	mg/Kg	1	4.5E-05	QJ	3.2E-05	J	0.000012	J	0.00003	U	0.000038	J	0.0002	U	0.00093		0.00023	J
PCB 108 (BZ)	mg/Kg	1	2.3E-05	QCJ	1.4E-05	CJ	5.4E-06	CJ	0.00003	U	0.000015	QCJ	0.0002	U	0.00041	CJ	0.0008	U
PCB 109 (BZ)	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 110	mg/Kg	1	0.00062	BC	0.0004	BC	0.00019	BC	0.000032	BC	0.00074	BC	0.00012	BCJ	0.015	BC	0.0036	BC
PCB 111 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 112 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 113 (BZ)	mg/Kg	1	0.00054	BC	0.00036	BC	0.00013	BC	0.000034	BC	0.00065	BC	0.000095	BCJ	0.013	BC	0.0031	BC
PCB 114	mg/Kg	1	0.00005	J	0.00001	QJ	0.000012	QJ	0.00003	U	0.000064	U	0.0002	U	0.00018	QJ	0.0008	U
PCB 115	mg/Kg	1	0.00062	BC	0.0004	BC	0.00019	BC	0.000032	BC	0.00074	BC	0.00012	BCJ	0.015	BC	0.0036	BC
PCB 116 (BZ)	mg/Kg	1	0.00015	QC	8.3E-05	C	0.00003	QC	5.3E-06	QCJ	0.00012	QB	0.0002	U	0.0024	QBC	0.00047	QBCJ
PCB 117 (BZ)	mg/Kg	1	0.00015	QC	8.3E-05	C	0.00003	QC	5.3E-06	QCJ	0.00012	QB	0.0002	U	0.0024	QBC	0.00047	QBCJ
PCB 118	mg/Kg	1	0.0005		0.0003		0.000096		0.000023	J	0.00055	B	0.000068	J	0.01	B	0.003	B
PCB 119	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 120 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	2.3E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 121 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 122 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000002	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 123	mg/Kg	1	9.4E-06	QJ	1.2E-05	J	2.6E-06	QJ	0.00003	U	9.7E-06	QJ	0.0002	U	0.00012	QJ	0.0008	U

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08	
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft	
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																		
PCB 124 (BZ)	mg/Kg	1	2.3E-05	QCJ	1.4E-05	CJ	5.4E-06	CJ	0.00003	U	0.000015	QCJ	0.0002	U	0.00041	CJ	0.0008	U
PCB 125 (BZ)	mg/Kg	1	0.00042	C	0.00024	C	0.0001	QC	0.000018	QCJ	0.0004	BC	0.0002	U	0.0086	BC	0.0019	BC
PCB 126	mg/Kg	1	2.6E-05	QJ	6.8E-05	U	4.2E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 127 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 128	mg/Kg	1	9.7E-05	QJ	7.5E-05		0.000031		0.00003	U	0.00007	Q	0.0002	U	0.0014		0.00033	QJ
PCB 129 (BZ)	mg/Kg	1	0.00057	BC	0.00035	BC	0.00018	BC	0.000044	BC	0.0006	BC	0.000083	QBCJ	0.011	BC	0.0029	BC
PCB 130 (BZ)	mg/Kg	1	4.2E-05	J	2.1E-05	QJ	0.000013	J	0.00003	U	0.000027	J	0.0002	U	0.00048	QJ	0.0008	U
PCB 131 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	4.1E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 132 (BZ)	mg/Kg	1	0.00021		0.00011		0.000066		0.000013	J	0.00015	B	0.0002	U	0.0034	B	0.00072	QBJ
PCB 133 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	6.3E-06	J	0.00003	U	8.4E-06	QJ	0.0002	U	0.00019	QJ	0.0008	U
PCB 134 (BZ)	mg/Kg	1	5.1E-05	CJ	1.7E-05	QCJ	0.000011	QCJ	0.00003	U	0.000022	CJ	0.0002	U	0.00051	CJ	0.0008	U
PCB 135	mg/Kg	1	0.00022	C	0.00014	C	0.000081	QC	0.000023	QCJ	0.0002	QC	0.0002	U	0.0033	QC	0.0008	U
PCB 136	mg/Kg	1	0.00009	J	5.3E-05	J	0.00003		6.5E-06	QJ	0.000064	J	0.0002	U	0.0014		0.00027	J
PCB 137 (BZ)	mg/Kg	1	2.7E-05	QJ	1.5E-05	J	7.5E-06	QJ	0.00003	U	0.000014	QJ	0.0002	U	0.00037	J	0.0008	U
PCB 138	mg/Kg	1	0.00057	BC	0.00035	BC	0.00018	BC	0.000044	BC	0.0006	BC	0.000083	QBCJ	0.011	BC	0.0029	BC
PCB 139 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	4.1E-06	QCJ	0.00003	U	0.000064	U	0.0002	U	0.00017	QCJ	0.0008	U
PCB 140 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	4.1E-06	QCJ	0.00003	U	0.000064	U	0.0002	U	0.00017	QCJ	0.0008	U
PCB 141	mg/Kg	1	0.00011	Q	7.3E-05		0.000033		9.8E-06	QJ	0.000081	Q	0.0002	U	0.0019	Q	0.00043	QJ
PCB 142 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 143 (BZ)	mg/Kg	1	5.1E-05	CJ	1.7E-05	QJ	0.000011	QCJ	0.00003	U	0.000022	CJ	0.0002	U	0.00051	CJ	0.0008	U
PCB 144 (BZ)	mg/Kg	1	0.00006	QJ	3.4E-05	J	9.8E-06	J	0.00003	U	0.000021	J	0.0002	U	0.00037	J	0.0008	U
PCB 145 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 146 (BZ)	mg/Kg	1	0.00011		6.3E-05	J	0.000032		5.9E-06	QJ	0.000085		0.0002	U	0.0016		0.00035	J
PCB 147 (BZ)	mg/Kg	1	0.00049	BC	0.00026	BC	0.00015	BC	0.00004	BC	0.00051	BC	0.000067	QBCJ	0.0094	BC	0.0015	QBC
PCB 148 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 149	mg/Kg	1	0.00049	BC	0.00026	BC	0.00015	BC	0.00004	BC	0.00051	BC	0.000067	QBCJ	0.0094	BC	0.0015	QBC
PCB 150 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 151	mg/Kg	1	0.00022	C	0.00014	C	0.000081	QC	0.000023	QCJ	0.0002	QC	0.0002	U	0.0033	QC	0.0008	U
PCB 152 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 153	mg/Kg	1	0.00051	BC	0.00029	BC	0.00014	BC	0.000045	BC	0.00057	BC	0.000065	BCJ	0.01	BC	0.0022	BC
PCB 154 (BZ)	mg/Kg	1	0.00022	C	0.00014	C	0.000081	QC	0.000023	QCJ	0.0002	QC	0.0002	U	0.0033	QC	0.0008	U
PCB 155 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 156	mg/Kg	1	9.9E-05	CJ	4.2E-05	QCJ	0.000018	C	0.00003	U	0.000034	QCJ	0.0002	U	0.00087	C	0.00033	QCJ
PCB 157	mg/Kg	1	9.9E-05	CJ	4.2E-05	QCJ	0.000018	C	0.00003	U	0.000034	QCJ	0.0002	U	0.00087	C	0.00033	QCJ
PCB 158	mg/Kg	1	6.8E-05	J	3.8E-05	J	0.000018		4.5E-06	QJ	0.000043	J	0.0002	U	0.00099		0.00021	QJ
PCB 159 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 160 (BZ)	mg/Kg	1	0.00057	BC	0.00035	BC	0.00018	BC	0.000044	BC	0.0006	BC	0.000083	QBCJ	0.011	BC	0.0029	BC
PCB 161 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 162 (BZ)	mg/Kg	1	5.9E-05	QJ	4.4E-05	QJ	0.000082	Q	0.00003	U	9.3E-06	QJ	0.0002	U	0.00074	Q	0.0008	U
PCB 163 (BZ)	mg/Kg	1	0.00057	BC	0.00035	BC	0.00018	BC	0.000044	BC	0.0006	BC	0.000083	QBCJ	0.011	BC	0.0029	BC
PCB 164 (BZ)	mg/Kg	1	0.00004	QJ	2.8E-05	J	0.000018		4.2E-06	J	0.000038	J	0.0002	U	0.00066	J	0.00014	QJ
PCB 165 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 166 (BZ)	mg/Kg	1	2.5E-05	J	6.8E-05	U	4.8E-06	J	0.00003	U	7.3E-06	QJ	0.0002	U	0.00013	QJ	0.0008	U
PCB 167	mg/Kg	1	3.1E-05	QJ	2.1E-05	J	9.2E-06	J	0.00003	U	0.000019	J	0.0002	U	0.00023	J	0.0008	U
PCB 168 (BZ)	mg/Kg	1	0.00051	BC	0.00029	BC	0.00014	BC	0.000045	BC	0.00057	BC	0.000065	BCJ	0.01	BC	0.0022	BC
PCB 169	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 170	mg/Kg	1	0.00021		0.00011	Q	0.000053		0.00002	J	0.00013		0.0002	U	0.0028		0.00041	QJ
PCB 171	mg/Kg	1	6.4E-05	CJ	3.6E-05	QCJ	0.000016	QCJ	5.7E-06	Q	0.000026	QCJ	0.0002	U	0.00065	QCJ	0.0008	U
PCB 172 (BZ)	mg/Kg	1	0.0001	U	2.2E-05	QJ	0.000013	QJ	0.00003	U	0.000019	QJ	0.0002	U	0.00052	QJ	0.0008	U

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08	
			0.0-1.0 ft ⁽²⁾ Primary		2.0-3.0 ft Primary		0.0-1.0 ft ⁽²⁾ Primary		2.0-3.0 ft Primary		0.0-1.0 ft ⁽²⁾ Primary		2.0-3.0 ft Primary		0.0-1.0 ft ⁽²⁾ Primary		2.0-3.0 ft Primary	
Polychlorinated Biphenyls (Congeners/Homoloques) (Continued)																		
PCB 173 (BZ)	mg/Kg	1	6.4E-05	CJ	3.6E-05	QCJ	0.000016	QCJ	5.7E-06	QCJ	0.000026	QCJ	0.0002	U	0.00065	QCJ	0.0008	U
PCB 174	mg/Kg	1	0.00015		0.0001		0.000059		0.000021	J	0.00012		0.0002	U	0.0031		0.0005	QJ
PCB 175 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	3.2E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 176 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	8.4E-06	J	3.8E-06	J	0.000013	QJ	0.0002	U	0.00037	QJ	0.0008	U
PCB 177 (BZ)	mg/Kg	1	0.0001	QJ	4.8E-05	J	0.000034		9.1E-06	QJ	0.000069		0.0002	U	0.0016		0.00025	QJ
PCB 178 (BZ)	mg/Kg	1	4.7E-05	J	3.3E-05	QJ	0.000015	J	5.5E-06	QJ	0.000029	J	0.0002	U	0.00057	QJ	0.0008	U
PCB 179 (BZ)	mg/Kg	1	7.4E-05	QJ	4.1E-05	QJ	0.000041		0.000012	J	0.000066		0.0002	U	0.0015		0.00021	J
PCB 180	mg/Kg	1	0.0004	C	0.0002	C	0.0001	C	0.000052	QC	0.0003	C	0.0002	U	0.0066	C	0.0014	C
PCB 181 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 182 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 183	mg/Kg	1	0.00012		5.9E-05	QJ	0.000034		0.000018	J	0.00008		0.0002	U	0.002		0.00028	QJ
PCB 184	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 185 (BZ)	mg/Kg	1	0.0001	U	1.6E-05	QJ	9.6E-06	J	0.00003	U	8.5E-06	QJ	0.0002	U	0.00027	QJ	0.0008	U
PCB 186 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 187	mg/Kg	1	0.00026		0.00015	Q	0.000089		0.000031		0.00023		0.0002	U	0.0049		0.00075	J
PCB 188 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 189	mg/Kg	1	0.0001	U	6.8E-05	U	4.2E-06	QJ	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 190 (BZ)	mg/Kg	1	6.7E-05	QJ	3.5E-05	QJ	8.9E-06	QJ	0.00003	U	0.000023	J	0.0002	U	0.00048	J	0.0008	U
PCB 191 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	3.5E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 192 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 193 (BZ)	mg/Kg	1	0.0004	C	0.0002	C	0.0001	C	0.000052	QC	0.0003	C	0.0002	U	0.0066	C	0.0014	C
PCB 194	mg/Kg	1	0.00012	Q	6.9E-05	Q	0.000029		0.000018	J	0.000062	QJ	0.000026	QJ	0.0022		0.00044	J
PCB 195	mg/Kg	1	5.6E-05	QJ	3.6E-05	J	0.000012	J	6.1E-06	J	0.000027	QJ	0.0002	U	0.00066	J	0.0008	U
PCB 196 (BZ)	mg/Kg	1	6.9E-05	QJ	3.6E-05	QJ	0.000016	QJ	0.000013	QJ	0.000029	QJ	0.0002	U	0.0011		0.0008	U
PCB 197 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 198 (BZ)	mg/Kg	1	0.00016	C	0.00009	C	0.000047	C	0.000034	C	0.000096	C	0.0002	U	0.0042	C	0.0005	QCJ
PCB 199 (BZ)	mg/Kg	1	0.0001	U	1.8E-05	J	6.7E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00022	J	0.0008	U
PCB 201	mg/Kg	1	0.0001	U	6.8E-05	U	6.3E-06	QJ	3.4E-06	QJ	0.000012	QJ	0.0002	U	0.00029	QJ	0.0008	U
PCB 201 (BZ)	mg/Kg	1	0.00016	C	0.00009	C	0.000047	C	0.000034	C	0.000096	C	0.0002	U	0.0042	C	0.0005	QJ
PCB 202 (BZ)	mg/Kg	1	4.4E-05	J	2.4E-05	QJ	0.000019		0.000017	J	0.000028	J	0.0002	U	0.0018		0.0008	U
PCB 203 (BZ)	mg/Kg	1	9.1E-05	QJ	0.00006	J	0.000028		0.000017	QJ	0.000056	J	0.0002	U	0.002		0.0008	U
PCB 204 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	0.000017	U	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 205 (BZ)	mg/Kg	1	0.0001	U	6.8E-05	U	3.6E-06	J	0.00003	U	0.000064	U	0.0002	U	0.00071	U	0.0008	U
PCB 206	mg/Kg	1	0.0001	QJ	5.4E-05	QJ	0.000029		0.000035		0.00006	QJ	0.000027	J	0.0064		0.00044	QJ
PCB 207	mg/Kg	1	0.0001	U	1.8E-05	QJ	5.8E-06	J	4.7E-06	QJ	0.000012	J	0.0002	U	0.0005	QJ	0.0008	U
PCB 208 (BZ)	mg/Kg	1	4.7E-05	J	2.5E-05	QJ	0.000013	J	0.000022	J	0.000032	J	0.0002	U	0.003		0.0008	U
Monochlorobiphenyl (total)	mg/Kg	1	0.00033	BQ	7.4E-05	QBJ	0.000028	BJ	0.000036	BJ	0.000024	QJ	0.0004	BJ	0.00018	J	0.0008	U
Dichlorobiphenyl (total)	mg/Kg	1	0.00092	QB	0.00044	QB	0.00021	QB	0.000081	QBJ	0.0008	QB	0.00049	QBJ	0.0095	QB	0.0015	QBJ
Trichlorobiphenyl (total)	mg/Kg	1	0.0024	BQ	0.0016	QB	0.00067	QB	0.00011	BJQ	0.0029	BQ	0.00049	QBJ	0.065	BQ	0.0053	BJQ
Tetrachlorobiphenyl (total)	mg/Kg	1	0.0045	BQ	0.0028	QB	0.001	BQ	0.00014	QBJ	0.0054	QB	0.00069	QJB	0.13	BQ	0.018	QB
Pentachlorobiphenyl (total)	mg/Kg	1	0.0041	QB	0.0025	QB	0.0012	Q	0.00018	QB	0.0043	BQ	0.00041	BJQ	0.086	BQ	0.018	BQ
Hexachlorobiphenyl (total)	mg/Kg	1	0.0029	QB	0.0017	BQ	0.00095	QB	0.0002	QB	0.0026	QB	0.00021	QBJ	0.049	QB	0.0095	QB
Heptachlorobiphenyl (total)	mg/Kg	1	0.0015	Q	0.00085	Q	0.0005	Q	0.00018	Q	0.0011	Q	0.0002	U	0.025	Q	0.0038	Q
Octachlorobiphenyl (total)	mg/Kg	1	0.00054	Q	0.00033	Q	0.00017	Q	0.00011	Q	0.00031	Q	0.000026	QJ	0.012	Q	0.00094	QJ
Nonachlorobiphenyl (total)	mg/Kg	1	0.00015	JQ	9.8E-05	QJ	0.000047		0.000062	Q	0.0001	JQ	0.000027	J	0.01	Q	0.00044	QJ
Decachlorobiphenyl	mg/Kg	1	0.00025		0.00011		0.000028		0.000046		0.000087	Q	0.000086	QJ	0.0092		0.0008	U
Pesticides/Herbicides																		
2,4,5-T	mg/Kg	--	0.0065	U	0.021	U	0.0053	U	0.0095	U	0.0041	U	0.0064	U	0.0056	U	0.0063	U
2,4-D	mg/Kg	--	0.042	U	0.14	U	0.034	U	0.061	U	0.026	U	0.041	U	0.036	U	0.04	U

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08		HRWC-10 07/29/08		HRWC-11 04/23/08		HRWC-11 04/23/08		HRWC-12 04/24/08		HRWC-12 04/24/08		HRWC-13 04/23/08		HRWC-13 04/23/08	
			0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft		0.0-1.0 ft ⁽²⁾		2.0-3.0 ft	
			Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Pesticides/Herbicides (Continued)																		
2,4-DB	mg/Kg	--	0.037	U	0.12	U	0.03	U	0.054	U	0.023	U	0.036	U	0.032	U	0.036	U
4,4'-DDD	mg/Kg	13	0.0015	U	0.001	U	0.00025	U	0.00045	U	0.00072	JP	0.0015	U	0.011		0.0031	JP
4,4'-DDE	mg/Kg	9	0.001	U	0.00068	U	0.00017	U	0.0003	U	0.00013	U	0.001	U	0.027		0.0043	JP
4,4'-DDT	mg/Kg	8	0.031	P	0.0016	U	0.00038	U	0.00069	U	0.00029	U	0.011	P	0.0004	U	0.0023	U
Aldrin	mg/Kg	0.2	0.0018	U	0.0012	U	0.0003	U	0.00054	U	0.00023	U	0.0018	U	0.00031	U	0.0018	U
alpha-BHC	mg/Kg	0.5	0.0026	U	0.0017	U	0.00043	U	0.00077	U	0.00033	U	0.0026	U	0.00044	U	0.0025	U
alpha-Chlordane	mg/Kg	1	0.0011	U	0.0095	J	0.00017	U	0.00031	U	0.00013	U	0.0011	U	0.00018	U	0.001	U
beta-BHC	mg/Kg	2	0.002	U	0.0013	U	0.00033	U	0.00059	U	0.00025	U	0.002	U	0.00034	U	0.002	U
delta-BHC	mg/Kg	--	0.0018	U	0.0036	JP	0.0003	U	0.00053	U	0.0015	J	0.012	J	0.014		0.0084	
Dieldrin	mg/Kg	0.2	0.0013	U	0.00084	U	0.00021	U	0.00038	U	0.00016	U	0.0039	JP	0.00022	U	0.0012	U
Endosulfan I	mg/Kg	6800	0.0018	U	0.0012	U	0.00029	U	0.00053	U	0.00022	U	0.0018	U	0.0003	U	0.0017	U
Endosulfan II	mg/Kg	6800	0.004	U	0.0026	U	0.00065	U	0.0012	U	0.00074	JP	0.0039	U	0.0038	P	0.0038	U
Endosulfan sulfate	mg/Kg	6800	0.0028	U	0.0018	U	0.00045	U	0.00082	U	0.00035	U	0.0027	U	0.00047	U	0.0027	U
Endrin	mg/Kg	340	0.0014	U	0.00091	U	0.00022	U	0.0004	U	0.00017	U	0.0014	U	0.00023	U	0.0013	U
Endrin aldehyde	mg/Kg	--	0.011	JP	0.0014	U	0.00036	U	0.00064	U	0.00045	JP	0.0032	JP	0.00037	U	0.0021	JP
Endrin ketone	mg/Kg	--	0.002	U	0.0013	U	0.00033	U	0.00059	U	0.00025	U	0.002	U	0.0043	P	0.0019	U
gamma-Chlordane	mg/Kg	1	0.0018	U	0.0012	U	0.00029	U	0.00052	U	0.00022	U	0.0017	U	0.0003	U	0.0017	U
Heptachlor	mg/Kg	0.7	0.0022	U	0.0014	U	0.00036	U	0.00064	U	0.00035	JP	0.0022	U	0.0052	P	0.0021	U
Heptachlor epoxide	mg/Kg	0.3	0.0017	U	0.0011	U	0.00028	U	0.00051	U	0.00036	JP	0.0017	U	0.0051	P	0.0017	U
Lindane	mg/Kg	2	0.027		0.0046	JP	0.00039	U	0.0007	U	0.0025	P	0.016	J	0.034		0.0072	JP
Methoxychlor	mg/Kg	5700	0.11		0.0047	U	0.0012	U	0.0021	U	0.00089	U	0.036		0.0012	U	0.0069	U
Silvex	mg/Kg	--	0.0052	U	0.017	U	0.0042	U	0.0075	U	0.0032	U	0.0051	U	0.0044	U	0.0049	U
Toxaphene	mg/Kg	3	0.12	U	0.079	U	0.019	U	0.035	U	0.015	U	0.12	U	0.02	U	0.12	U
Metals																		
Aluminum	mg/Kg	--	15700	J	9780	J	36200		18900		6700		13600		19800		14600	
Antimony	mg/Kg	450	8.1		2.4	B	8.2	BJ	1.6	BJ	1.6	J	3.4	J	14.9	J	2.5	J
Arsenic	mg/Kg	19	101		22.6		3.8	U	15.9		6.1		96.3		36		91.9	
Barium	mg/Kg	59000	173		39.5	B	29.5	B	48.5	B	98.2		211		143		176	
Beryllium	mg/Kg	140	0.87		0.73	B	0.1	U	1.2	J	0.55	J	1.1	J	0.59	BJ	1	J
Cadmium	mg/Kg	78	0.94	B	0.32	U	0.16	U	0.14	U	0.06	U	1.2		1.1		1.2	
Calcium	mg/Kg	--	18200		9190		163000		16300		28600		8820		48000		4550	
Chromium ⁽⁴⁾	mg/Kg	--	3620	J	499	J	31100	J	2200	J	121	J	393	J	9590	J	471	J
Chromium (Hexavalent) ⁽⁴⁾	mg/Kg	20	4.8		0.4	U	1030		10.6		0.4	U	0.4	U	15.2		13.7	
Cobalt	mg/Kg	590	22.1		5	B	123	J	21.9	J	5.2	BJ	11.6	J	41.1	J	12.5	J
Copper	mg/Kg	45000	251		40.9		9		19.6		47.8		278		141		261	
Iron	mg/Kg	--	42500	J	38300	J	91900		58100		18800		36300		53500		35600	
Lead	mg/Kg	800	316		56.5		4.4		28.7		158		359		262		298	
Magnesium	mg/Kg	--	12200		5460		105000		11200		6310		7350		15900		6900	
Manganese	mg/Kg	5900	562		260		853		368		433		470		626		426	
Mercury	mg/Kg	65	5		0.66		0.015	B	0.13		0.51		5.8		5.4		6.3	
Nickel	mg/Kg	23000	87.9		22.5	B	395		59.8		31.4		51.6		130		53.9	
Potassium	mg/Kg	--	2490		1950	B	151	B	3440		1090		2340		2130		2560	
Selenium	mg/Kg	5700	3.3		3.4		0.97	U	1.7		0.37	U	2.9		2		2.7	
Silver	mg/Kg	5700	2.1		0.48	B	0.39	B	0.17	B	0.28	B	2.6		1.5		2.2	
Sodium	mg/Kg	--	4210		17400		3090		11200		1420		4280		3410		4580	
Thallium	mg/Kg	79	4.5		5.4	B	10.9		1.7	B	0.41	U	0.95	B	4.3		1.3	B
Vanadium	mg/Kg	1100	106		21.5	B	719		102		17		38.5		155		40.5	
Zinc	mg/Kg	110000	404		73.9		285	J	105	J	73.5	J	437	J	403	J	442	J

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-10 07/29/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-10 07/29/08 2.0-3.0 ft Primary		HRWC-11 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-11 04/23/08 2.0-3.0 ft Primary		HRWC-12 04/24/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-12 04/24/08 2.0-3.0 ft Primary		HRWC-13 04/23/08 0.0-1.0 ft ⁽²⁾ Primary		HRWC-13 04/23/08 2.0-3.0 ft Primary	
Acid Volatile Sulfide/Simultaneously Extracted Metals																		
Acid Volatile Sulfide	umole	--	2.9		2.5	B	0.26	U	0.75	B	7.4		51.5		25.8		17.4	
Cadmium (SEM)	umol/g	--	0.0096	E	0.002	B	0.0011	B	0.02		0.0077		0.004		0.0081		0.0044	
Copper (SEM)	umol/g	--	2.8	E	0.31		0.0092	B	4.5		1.5		0.73		1.2		0.087	
Lead (SEM)	umol/g	--	1.4		0.23		0.066		1.7		0.92		1.9		1.2		0.0038	
Mercury (SEM)	umol/g	--	4.1E-05	B	4.4E-05	U	0.000011	U	0.000068	BJ	0.000013	BJ	0.000019	BJ	0.00011	J	0.000041	BJ
Nickel (SEM)	umol/g	--	0.86	E	0.29		0.32		1.7		0.26		0.31		1.3		4.6	
Silver (SEM)	umol/g	--	0.0032		0.00092	U	0.00023	U	0.0031	B	0.00068	B	0.0028		0.0029		0.0014	B
Zinc (SEM)	umol/g	--	4.7	E	1.2		0.68	J	7.2	J	3	J	1.8	J	3.6	J	2.6	J
Toxicity Characteristic Leaching Procedure ⁽⁵⁾																		
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U
1,4-Dichlorobenzene	mg/L	7.5	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U
2-Butanone	mg/L	200	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U
Benzene	mg/L	0.5	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Carbon Tetrachloride	mg/L	0.5	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U
Chlorobenzene	mg/L	100	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U
Chloroform	mg/L	6	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U
Cresols	mg/L	200	0.0089	U	1.3		0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
Arsenic	mg/L	5	0.34	B	0.22	B	0.19	B	0.21	B	0.21		0.49		0.17	B	0.35	B
Barium	mg/L	100	0.15	BJ	0.05	BJ	0.034	B	0.063	B	0.36	B	0.42	B	0.37	B	0.47	B
Cadmium	mg/L	1	0.0052	B	0.0012	U	0.0012	U	0.0012	U	0.0012	U	0.0027	B	0.0012	U	0.0049	B
Chromium	mg/L	5	0.023	B	0.0082	B	14.9		0.14	B	0.0011	U	0.017	B	0.012	B	0.037	B
Lead	mg/L	5	0.21	B	0.013	U	0.013	U	0.019	B	0.22	B	0.19	B	0.052	B	0.17	B
Mercury	mg/L	0.2	5.5E-05	U	5.5E-05	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U	0.000055	U
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
RCRA Characteristics and Indicators																		
Corrosivity (pH)	SU	2<pH<12.5	9.02		7.33		4.36		11.92		9.38		7.89		7.77		8.17	
Cyanide (Reactivity)	mg/Kg	23000	0.22	U	0.35	B	0.65	U	0.21	B	0.29	U	0.22	B	1.1		2.2	
Total Sulfide (Reactivity)	mg/Kg	--	27.6	U	216		490		20.6	U	37.1	U	464		1200		946	
Ignitability	none	--	No		No		No		No		No		No		No		No	
Total Organic Carbon	mg/Kg	--	91600		114000		405000		10100		116000		6870		41600		33900	
Oxidation Reduction Potential	mV	--	267		209		349		182		253		250		134		225	
Total Petroleum Hydrocarbons	mg/Kg	--	47.3		1720		1860		12		42.8		286		1040		1200	
Percent Solids	%	--	44.5		48.2		14.7		59.5		33.1		77.7		49.2		56.7	

TABLE 4-16

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
STANDARD CHLORINE SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Notes:

1. Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
2. The volatile organic fraction sample from the surficial interval was obtained from a depth of 0.5 to 1.0 feet below the sediment bed surface.
3. The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
4. Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
5. Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Organic results. Analyte detected in associated method blank
- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- C - Presence of coeluting isomer is evident based on appearance of peak shoulder.
- E - Organic results. Result is an estimated concentration. Outside linear calibration range.
- E - Inorganic results. Serial dilution was outside quality control limits for this analyte.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- P - Organic results. Percent difference between initial and confirmation column results is greater than 40%.
- Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration. Analyte may be present below the quantitation limit indicated.
- S - Organic results. Ion suppression.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

TABLE 4-17

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
FORMER DIAMOND SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-1 05/19/08 0.0-1.0 ft Primary		HRWC-1 05/19/08 2.0-3.0 ft Primary		HRWC-2 05/19/08 0.0-1.0 ft Primary		HRWC-2 05/19/08 2.0-3.0 ft Primary		HRWC-3 05/19/08 0.0-1.0 ft Primary		HRWC-3 05/19/08 2.0-3.0 ft Primary		HRWC-4 05/09/08 0.0-1.0 ft Primary		HRWC-4 05/09/08 2.0-3.0 ft Primary	
Volatile Organics																		
1,1,1-Trichloroethane	mg/Kg	4200	0.002	U	0.0034	U	0.0008	U	0.0015	U	0.00071	U	0.00052	U	0.0015	U	0.0013	U
1,1,2,2-Tetrachloroethane	mg/Kg	3	0.003	U	0.0051	U	0.0012	U	0.0022	U	0.0011	U	0.00077	U	0.0017	U	0.0014	U
1,1,2-Trichloroethane	mg/Kg	6	0.0044	U	0.0076	U	0.0018	U	0.0032	U	0.0016	U	0.0012	U	0.0018	U	0.0015	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	0.0034	U	0.0059	U	0.0014	U	0.0025	U	0.0012	U	0.0009	U	0.0016	U	0.0013	U
1,1-Dichloroethane	mg/Kg	24	0.0024	U	0.0041	U	0.00095	U	0.0017	U	0.00084	U	0.00062	U	0.0014	U	0.0012	U
1,1-Dichloroethene	mg/Kg	150	0.0035	U	0.006	U	0.0014	U	0.0025	U	0.0012	U	0.00091	U	0.0017	U	0.0015	U
1,2,4-Trichlorobenzene	mg/Kg	820	0.0036	U	0.0062	U	0.0015	U	0.0026	U	0.0013	U	0.00095	U	0.0015	U	0.0013	U
1,2-Dibromoethane	mg/Kg	0.04	0.0036	U	0.0061	U	0.0014	U	0.0026	U	0.0013	U	0.00093	U	0.0015	U	0.0013	U
1,2-Dichlorobenzene	mg/Kg	59000	0.0033	U	0.0056	U	0.0013	U	0.0024	U	0.0012	U	0.00086	U	0.0016	U	0.0014	U
1,2-Dichloroethane	mg/Kg	3	0.0025	U	0.0043	U	0.001	U	0.0018	U	0.0009	U	0.00066	U	0.0016	U	0.0014	U
1,2-Dichloropropane	mg/Kg	5	0.0022	U	0.0038	U	0.0009	U	0.0016	U	0.00079	U	0.00059	U	0.0016	U	0.0014	U
1,3-Dichlorobenzene	mg/Kg	59000	0.0027	U	0.0046	U	0.0011	U	0.002	U	0.00096	U	0.00071	U	0.0016	U	0.0013	U
1,4-Dichlorobenzene	mg/Kg	13	0.0026	U	0.0045	U	0.0011	U	0.0019	U	0.00093	U	0.00069	U	0.0016	U	0.0014	U
2-Butanone	mg/Kg	44000	0.0036	U	0.0062	U	0.0015	U	0.0026	U	0.0013	U	0.00095	U	0.0014	U	0.0012	U
2-Hexanone	mg/Kg	--	0.0029	U	0.0049	U	0.0011	U	0.0021	U	0.001	U	0.00074	U	0.0012	U	0.00099	U
4-Methyl-2-pentanone	mg/Kg	--	0.0027	U	0.0046	U	0.0011	U	0.002	U	0.00095	U	0.0007	U	0.0013	U	0.0011	U
Acetone	mg/Kg	--	0.021	U	0.035	U	0.012	J	0.015	U	0.0073	U	0.0054	U	0.12		0.0063	U
Benzene	mg/Kg	5	0.0028	U	0.0048	U	0.0011	U	0.002	U	0.00099	U	0.00073	U	0.0015	U	0.0013	U
Bromodichloromethane	mg/Kg	3	0.0023	U	0.004	U	0.00093	U	0.0017	U	0.00082	U	0.0006	U	0.0014	U	0.0012	U
Bromoform	mg/Kg	280	0.0018	U	0.0031	U	0.00073	U	0.0013	U	0.00065	U	0.00048	U	0.0015	U	0.0013	U
Bromomethane	mg/Kg	59	0.0031	U	0.0052	U	0.0012	U	0.0022	U	0.0011	U	0.0008	U	0.0019	U	0.0016	U
Carbon disulfide	mg/Kg	110000	0.009	J	0.0036	U	0.00084	U	0.0015	U	0.00075	U	0.00055	U	0.0084		0.0015	U
Carbon tetrachloride	mg/Kg	2	0.0018	U	0.0032	U	0.00074	U	0.0013	U	0.00065	U	0.00048	U	0.0013	U	0.0011	U
Chlorobenzene	mg/Kg	7400	0.0031	U	0.0054	U	0.0012	U	0.0023	U	0.0011	U	0.00082	U	0.0016	U	0.0014	U
Chloroethane	mg/Kg	1100	0.0064	U	0.011	U	0.0026	U	0.0046	U	0.0023	U	0.0017	U	0.0021	U	0.0018	U
Chloroform	mg/Kg	2	0.0024	U	0.0041	U	0.00097	U	0.0018	U	0.00086	U	0.00063	U	0.0016	U	0.0013	U
Chloromethane	mg/Kg	12	0.0035	U	0.006	U	0.0014	U	0.0026	U	0.0012	U	0.00092	U	0.0016	U	0.0014	U
cis-1,2-Dichloroethene	mg/Kg	560	0.0029	U	0.005	U	0.0012	U	0.0021	U	0.001	U	0.00076	U	0.0016	U	0.0014	U
cis-1,3-Dichloropropene	mg/Kg	7	0.0028	U	0.0048	U	0.0011	U	0.002	U	0.00099	U	0.00073	U	0.0013	U	0.0011	U
Cyclohexane	mg/Kg	--	0.0015	U	0.0026	U	0.00061	U	0.0011	U	0.00054	U	0.0004	U	0.0015	U	0.0013	U
Dibromochloropropane	mg/Kg	--	0.0031	U	0.0053	U	0.0012	U	0.0022	U	0.0011	U	0.00081	U	0.0012	U	0.0011	U
Dibromochloromethane	mg/Kg	8	0.0029	U	0.005	U	0.0012	U	0.0021	U	0.001	U	0.00076	U	0.0014	U	0.0012	U
Dichlorodifluoromethane	mg/Kg	230000	0.0028	U	0.0047	U	0.0011	U	0.002	U	0.00097	U	0.00072	U	0.0019	U	0.0016	U
Ethylbenzene	mg/Kg	110000	0.0027	U	0.0046	U	0.0022	J	0.0019	U	0.00094	U	0.00069	U	0.0018	U	0.0015	U
Isopropylbenzene	mg/Kg	--	0.0028	U	0.0048	U	0.0019	J	0.002	U	0.00099	U	0.00073	U	0.0016	U	0.0013	U
Methyl acetate	mg/Kg	--	0.0037	U	0.0064	U	0.0015	U	0.0027	U	0.0013	U	0.00097	U	0.0016	U	0.0013	U
Methylcyclohexane	mg/Kg	--	0.003	U	0.0051	U	0.0012	U	0.0022	U	0.0011	U	0.00078	U	0.0017	U	0.0014	U
Methylene chloride	mg/Kg	97	0.0028	U	0.0048	U	0.0011	U	0.0073	J	0.00098	U	0.00072	U	0.0013	J	0.0012	B
Methyltert-butylether	mg/Kg	320	0.0031	U	0.0053	U	0.0012	U	0.0022	U	0.0011	U	0.00081	U	0.0014	U	0.0012	U
Styrene	mg/Kg	260	0.0022	U	0.0038	U	0.00088	U	0.0016	U	0.00078	U	0.00057	U	0.0017	U	0.0014	U
Tetrachloroethene	mg/Kg	5	0.0028	U	0.0048	U	0.0011	U	0.002	U	0.00099	U	0.00073	U	0.0019	U	0.0016	U
Toluene	mg/Kg	91000	0.003	U	0.0052	U	0.0012	U	0.0022	U	0.0011	U	0.00079	U	0.0012	U	0.00099	U
trans-1,2-Dichloroethene	mg/Kg	720	0.0025	U	0.0042	U	0.00098	U	0.0018	U	0.00087	U	0.00064	U	0.0017	U	0.0015	U
trans-1,3-Dichloropropene	mg/Kg	7	0.0025	U	0.0042	U	0.00099	U	0.0018	U	0.00							

TABLE 4-17

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
FORMER DIAMOND SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-1 05/19/08 0.0-1.0 ft Primary		HRWC-1 05/19/08 2.0-3.0 ft Primary		HRWC-2 05/19/08 0.0-1.0 ft Primary		HRWC-2 05/19/08 2.0-3.0 ft Primary		HRWC-3 05/19/08 0.0-1.0 ft Primary		HRWC-3 05/19/08 2.0-3.0 ft Primary		HRWC-4 05/09/08 0.0-1.0 ft Primary		HRWC-4 05/09/08 2.0-3.0 ft Primary	
Semivolatile Organics (Continued)																		
Bis(2-chloroethoxy)methane	mg/Kg	--	0.044	U	0.12	U	0.28	U	0.19	U	0.019	U	0.019	U	0.021	U	0.043	U
Bis(2-chloroethyl)ether	mg/Kg	2	0.021	U	0.059	U	0.13	U	0.092	U	0.0092	U	0.0092	U	0.01	U	0.021	U
Bis(2-ethylhexyl)phthalate	mg/Kg	140	0.072	U	0.2	U	0.45	U	0.31	U	0.29	J	0.031	U	0.034	U	0.071	U
Butyl benzyl phthalate	mg/Kg	14000	0.076	U	0.21	U	0.47	U	0.33	U	0.033	U	0.033	U	0.036	U	0.075	U
Caprolactam	mg/Kg	340000	0.18	U	0.49	U	1.1	U	0.77	U	0.077	U	0.077	U	0.084	U	0.18	U
Carbazole	mg/Kg	96	0.039	U	0.11	U	0.24	U	0.17	U	0.017	U	0.018	J	0.081	J	0.14	J
Chrysene	mg/Kg	230	0.081	J	0.1	U	5	J	6.5		0.79		0.95		4.8		6.4	
Dibenzo(a,h)anthracene	mg/Kg	0.2	0.06	U	0.17	U	0.7	J	0.75	J	0.15	J	0.15	J	0.64		1.1	
Dibenzofuran	mg/Kg	--	0.052	U	0.14	U	0.33	U	0.23	U	0.033	J	0.041	J	0.13	J	0.65	J
Diethyl phthalate	mg/Kg	550000	0.084	U	0.23	U	0.53	U	0.36	U	0.036	U	0.036	U	0.04	U	0.083	U
Dimethyl phthalate	mg/Kg	--	0.053	U	0.15	U	0.33	U	0.23	U	0.023	U	0.023	U	0.025	U	0.053	U
Di-n-butyl phthalate	mg/Kg	68000	0.16	U	0.43	U	0.98	U	0.68	U	0.068	U	0.068	U	0.074	U	0.15	U
Di-n-octyl phthalate	mg/Kg	27000	0.066	U	0.18	U	0.41	U	0.28	U	0.028	U	0.028	U	0.031	U	0.065	U
Fluoranthene	mg/Kg	24000	0.15	J	0.22	J	9.1		13		1.9		2.6		14		14	
Fluorene	mg/Kg	24000	0.046	U	0.13	U	0.29	U	0.3	J	0.02	U	0.05	J	0.21	J	0.94	
Hexachlorobenzene	mg/Kg	1	0.057	U	0.16	U	0.36	U	0.25	U	0.025	U	0.025	U	0.027	U	0.056	U
Hexachlorobutadiene	mg/Kg	25	0.058	U	0.16	U	0.36	U	0.25	U	0.025	U	0.025	U	0.027	U	0.057	U
Hexachlorocyclopentadiene	mg/Kg	110	0.043	U	0.12	U	0.27	U	0.19	U	0.019	U	0.019	U	0.02	U	0.043	U
Hexachloroethane	mg/Kg	140	0.042	U	0.12	U	0.26	U	0.18	U	0.018	U	0.018	U	0.02	U	0.042	U
Indeno(1,2,3-cd)pyrene	mg/Kg	2	0.051	J	0.093	U	2.1	J	2.5	J	0.46		0.46		2.5		3	
Isophorone	mg/Kg	2000	0.053	U	0.15	U	0.33	U	0.23	U	0.023	U	0.023	U	0.025	U	0.052	U
Naphthalene	mg/Kg	17	0.046	U	0.13	U	2.1	J	1.1	J	0.16	J	0.35	J	0.68		4	
Nitrobenzene	mg/Kg	340	0.023	U	0.065	U	0.15	U	0.1	U	0.01	U	0.01	U	0.011	U	0.023	U
N-Nitrosodiphenylamine	mg/Kg	390	0.051	U	0.14	U	0.32	U	0.22	U	0.022	U	0.022	U	0.024	U	0.05	U
N-Nitrosodipropylamine	mg/Kg	0.3	0.023	U	0.064	U	0.14	U	0.1	U	0.01	U	0.01	U	0.011	U	0.023	U
Pentachlorophenol	mg/Kg	10	0.07	U	0.19	U	0.44	U	0.3	U	0.03	U	0.03	U	0.033	U	0.069	U
Phenanthrene	mg/Kg	300000	0.045	U	0.24	J	0.74	J	0.7	J	0.15	J	0.2	J	1.9		4.7	
Phenol	mg/Kg	210000	0.057	U	0.16	U	0.36	U	0.25	U	0.19	J	0.025	U	0.027	U	0.056	U
Pyrene	mg/Kg	18000	0.18	J	0.21	J	9.6		14		1.8		2.1		12		12	
Polychlorinated Dioxins and Furans																		
1,2,3,4,6,7,8-HpCDD	ug/Kg	--	0.018		0.0027	QJ	0.013	Q	0.0056	J	0.0065		0.004	J	0.029		0.0038	QJ
1,2,3,4,6,7,8-HpCDF	ug/Kg	--	0.59	QB	0.095	B	0.069	B	0.33	B	0.017	B	0.0029	BJ	0.5		0.005	J
1,2,3,4,7,8,9-HpCDF	ug/Kg	--	0.022		0.004	QJ	0.0029	QJ	0.014		0.00079	J	0.00012	QJ	0.02		0.007	U
1,2,3,4,7,8-HxCDD	ug/Kg	--	0.00066	J	0.039	U	0.00072	QJ	0.012	U	0.00014	QJ	0.00014	J	0.0012	QJ	0.007	U
1,2,3,4,7,8-HxCDF	ug/Kg	--	0.21	QB	0.037	BJ	0.031	B	0.13	QB	0.0065	QB	0.00087	QBJ	0.19		0.0018	QJ
1,2,3,6,7,8-HxCDD	ug/Kg	--	0.0029	J	0.039	U	0.0016	QJ	0.00075	J	0.00044	QJ	0.00026	QJ	0.0045	QJ	0.007	U
1,2,3,6,7,8-HxCDF	ug/Kg	--	0.025	B	0.0042	QBJ	0.0041	BJ	0.014	B	0.0012	BJ	0.00048	BJ	0.022		0.007	U
1,2,3,7,8,9-HxCDD	ug/Kg	--	0.0017	J	0.039	U	0.00097	J	0.012	U	0.00026	QJ	0.00031	J	0.0033	J	0.007	U
1,2,3,7,8,9-HxCDF	ug/Kg	--	0.014	U	0.039	U	0.009	U	0.012	U	0.00014	J	0.0062	U	0.0068	U	0.007	U
1,2,3,7,8-PCDD	ug/Kg	--	0.0006	QJ	0.039	U	0.009	U	0.012	U	0.0062	U	0.0062	U	0.0017	QJ	0.007	U
1,2,3,7,8-PCDF	ug/Kg	--	0.0023	QJ	0.039	U	0.0026	J	0.0017	J	0.00076	J	0.00046	J	0.0033	QJ	0.007	U
2,3,4,6,7,8-HxCDF	ug/Kg	--	0.0081	J	0.0012	QJ	0.0019	QJ	0.0043	J	0.00043	J	0.00035	J	0.0072		0.007	U
2,3,4,7,8-PCDF	ug/Kg	--	0.015		0.0025	J	0.0035	J	0.0091	J	0.0011	J	0.0003	QJ	0.018		0.00053	QJ
2,3,7,8-TCDD	ug/Kg	--	0.0033		0.0079	U	0.015		0.0025	U	0.0012	QJ	0.0012	U	0.0051		0.0014	U
2,3,7,8-TCDF	ug/Kg	--	0.0017	J	0.00089	QJ	0.0044		0.0013	QJ	0.0011	QJ	0.0012	QJ	0.0029		0.00083	J
OCDD	ug/Kg	--	0.22	B	0.052	BJ	0.61	B	0.13	B	0.15	B	0.22	B	0.36		0.21	
OCDF	ug/Kg	--	1.1	B	0.26	B	0.15	B	0.79	B	0.026	B	0.0076	BJ	0.83	B	0.011	QBJ
Total HpCDD	ug/Kg	--	0.044	B	0.0079	BQJ	0.038	QB	0.014	BJ	0.017	B	0.011	B	0.067		0.013	Q
Total HpCDF	ug/Kg	--	0.67	QB	0.11	QB	0.082	QB	0.38	QB	0.021	QB	0.0045	QJB	0.6	Q	0.005	J
Total HxCDD	ug/Kg	--	0.022	QJ	0.0035	QJ	0.017	QJ	0.0061	QJ	0.0059	QJ	0.0039	QJ	0.038			

TABLE 4-17

ANALYTICAL RESULTS
HACKENSACK RIVER SEDIMENT SAMPLES
FORMER DIAMOND SITE RIVER FRONTAGE
KEARNY, NEW JERSEY

Constituent of Interest	Units	Criterion ⁽¹⁾	HRWC-1 05/19/08 0.0-1.0 ft Primary		HRWC-1 05/19/08 2.0-3.0 ft Primary		HRWC-2 05/19/08 0.0-1.0 ft Primary		HRWC-2 05/19/08 2.0-3.0 ft Primary		HRWC-3 05/19/08 0.0-1.0 ft Primary		HRWC-3 05/19/08 2.0-3.0 ft Primary		HRWC-4 05/09/08 0.0-1.0 ft Primary		HRWC-4 05/09/08 2.0-3.0 ft Primary	
Metals																		
Aluminum	mg/Kg	--	10400		2290		8890		10300		2870		2690		2770		4440	
Antimony	mg/Kg	450	0.34	BJ	0.72	U	0.49	BJ	1.6	BJ	1.2	J	1.1	B	1.4		1.8	
Arsenic	mg/Kg	19	18.3		1.8	U	28.2		43.2		10.4		10.6		6		16.7	
Barium	mg/Kg	59000	38	B	18.2	B	117		143		52		59.3		40.9		112	
Beryllium	mg/Kg	140	0.92	B	0.45	B	0.57	B	0.79	B	0.25	B	0.24	B	0.25	B	0.35	B
Cadmium	mg/Kg	78	0.15	B	0.37	U	0.83	B	1.1	B	0.28	B	0.24	B	0.21	B	0.24	B
Calcium	mg/Kg	--	5810		9370		10300		4570		1420		1830		1780		1920	
Chromium ⁽³⁾	mg/Kg	120000	505		24		2400		538		1930		711		367	J	425	J
Chromium (Hexavalent) ⁽³⁾	mg/Kg	20	7.43	U	0.4	U	47.8		0.4	U	159		17.3		10.3		6.1	
Cobalt	mg/Kg	590	12.1	B	1.2	B	11.1		8.6	B	34		35.5		7.7		29.8	
Copper	mg/Kg	45000	21.3		5.1	B	104		161		39.4		38.7		29.8		66.2	
Iron	mg/Kg	--	30700		7810		27000		27800		14400		19800		8830	J	18200	J
Lead	mg/Kg	800	31.6	J	4.4	J	125	J	176	J	34.8	J	37.1	J	40.3		70	
Magnesium	mg/Kg	--	6100		8490		5160		5790		4670		4180		8430		4030	
Manganese	mg/Kg	5900	242		206		386		424		183		348		138		485	
Mercury	mg/Kg	65	0.61		0.093	B	3		4.1		0.71		1.3		0.67		3.4	
Nickel	mg/Kg	23000	37.6		4.4	B	44.8		35.2		290		357		142		252	
Potassium	mg/Kg	--	2140		1050	B	1650		2090		513	B	488	B	464	B	728	
Selenium	mg/Kg	5700	0.82	U	2.3	U	1.3		1.6		0.46	B	0.42	B	0.39	U	0.91	
Silver	mg/Kg	5700	0.33	BJ	0.49	BJ	0.97	J	1.5	J	0.43	BJ	0.36	BJ	0.53	BJ	0.65	BJ
Sodium	mg/Kg	--	7120		17400		2930		5000		905		1090		1200		1530	
Thallium	mg/Kg	79	0.91	U	2.5	U	1.1	B	0.79	U	0.87	B	0.56	B	0.63	B	2.1	
Vanadium	mg/Kg	1100	70.2		8.7	B	51.5		27.9		22.3		12.5		19		16	
Zinc	mg/Kg	110000	74.3		18		230		307		64.6		60.4		70		122	
Toxicity Characteristic Leaching Procedure ⁽⁴⁾																		
1,1-Dichloroethene	mg/L	0.7	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U
1,2-Dichloroethane	mg/L	0.5	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U	0.026	U
1,4-Dichlorobenzene	mg/L	7.5	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U	0.0046	U
2,4,5-Trichlorophenol	mg/L	400	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U	0.0041	U
2,4,6-Trichlorophenol	mg/L	2	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U	0.0026	U
2,4-Dinitrotoluene	mg/L	0.13	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U	0.0028	U
2-Butanone	mg/L	200	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U	0.033	U
Benzene	mg/L	0.5	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037	B
Carbon Tetrachloride	mg/L	0.5	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	U	0.028	B
Chlorobenzene	mg/L	100	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U	0.031	U
Chloroform	mg/L	6	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	B
Cresols	mg/L	200	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U	0.0089	U
Hexachlorobenzene	mg/L	0.13	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U	0.0049	U
Hexachlorobutadiene	mg/L	0.5	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U	0.0033	U
Hexachloroethane	mg/L	3	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	U	0.0036	B
Nitrobenzene	mg/L	2	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U	0.0056	U
Pentachlorophenol	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Pyridine	mg/L	5	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U	0.011	U
Tetrachloroethene	mg/L	0.7	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U	0.023	U
Trichloroethene	mg/L	0.5	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	U	0.035	B
Vinyl chloride	mg/L	0.2	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U	0.038	U
Arsenic	mg/L	5	0.18	B	0.16	B	0.19	B	0.23	B	0.17	B	0.2	B	0.18	B	0.21	U
Barium	mg/L	100	0.14	B	0.021	B	0.32	B	0.086	B	0.99	B	1.3	B	0.55	B	0.82	U
Cadmium	mg/L	1	0.0012	U	0.0012	U	0.0012	U	0.0012	U	0.0018	B	0.0029	B	0.0042	B	0.0036	U
Chromium	mg/L	5	0.026	B	0.0047	B	0.061	B	0.032	B	0.54		0.19	B	0.063	B	0.03	U
Lead	mg/L	5	0.74		0.013	U	0.059	B	0.014	B	1.6		0.081	B	4.6		0.062	U
Mercury	mg/L	0.2	5.5E-05	U	5.5E-05	U	5.5E-05	U	5.5E-05	U	5.5E-05	U	5.5E-05	U	5.5E-05	U	5.5E-05	U
Selenium	mg/L	1	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
Silver	mg/L	5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
RCRA Characteristics and Indicators																		
Corrosivity (pH)	SU	2<pH<12.5	7.71		7.41		7.8		7.51		7.89		9.01		7.99		8.23	
Cyanide	mg/Kg	23000	0.27	U	0.75	U	2.5		0.84	B	1.1		1.1		0.13	U	0.45	B
Total Sulfide (Reactivity)	mg/Kg	--	433		126	B	1580		158		179		730		540		1190	
Ignitability	none	--	No		No		No		No		No		No		No		No	
Total Organic Carbon	mg/Kg	--	76800		439000		42700		144000		18100		17700		10500		15600	
Oxidation Reduction Potential	mV	--	237		288		310		317		404		306		201		92	
Total Petroleum Hydrocarbons	mg/Kg	--	--		--		--		--		--		--		--		--	
Percent Solids	%	--	35.1		12.7		55.6		40.6		80.6		81.1		74		71.1	

- Notes:
- Criteria are the NJDEP Non-Residential Direct Contact Soil Remediation Standards (online at www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf) unless noted otherwise.
 - The 1 ug/kg benchmark for 2,3,7,8-TCDD equivalents is the United States Environmental Protection Agency residential guideline per OSWER Directive 9200.4-26.
 - Nonpromulgated criteria for total (trivalent) and hexavalent chromium determined by chromium workgroup (www.state.nj.us/dep/srp/guidance).
Criterion for residential exposure to trivalent chromium was used for total chromium.
 - Toxicity Characteristic Leaching Procedure limits as specified in 40 Code of Federal Regulations 261.24 - available at electronic CFR website (ecfr.gpoaccess.gov).

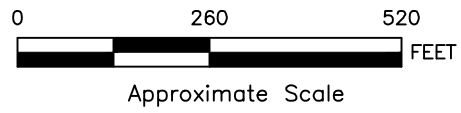
Exceedances are shown in bold, shaded typeface. Data qualifiers are as follows:

- B - Organic results. Analyte detected in associated method blank
- B - Inorganic results. Result is an estimate. Quantitation between the detection limit and the reporting limit.
- J - Organic results. Result is an estimate. Quantitated between the detection limit and the reporting limit.
- J - Inorganic results. Result is an estimated concentration. Quantitated below the reporting limit.
- Q - One or more quality control criteria for identification not attained. Value is an Estimated Maximum Possible Concentration. Analyte may be present below the quantitation limit indicated.
- U - Not detected at the detection limit indicated.
- - Not analyzed or criteria unavailable.

APPENDIX A
HISTORIC AERIAL PHOTOGRAPHS

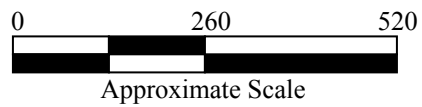


SCCC SITE AFTER INTERIM REMEDIAL MEASURES (2012)

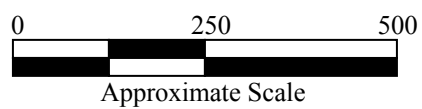


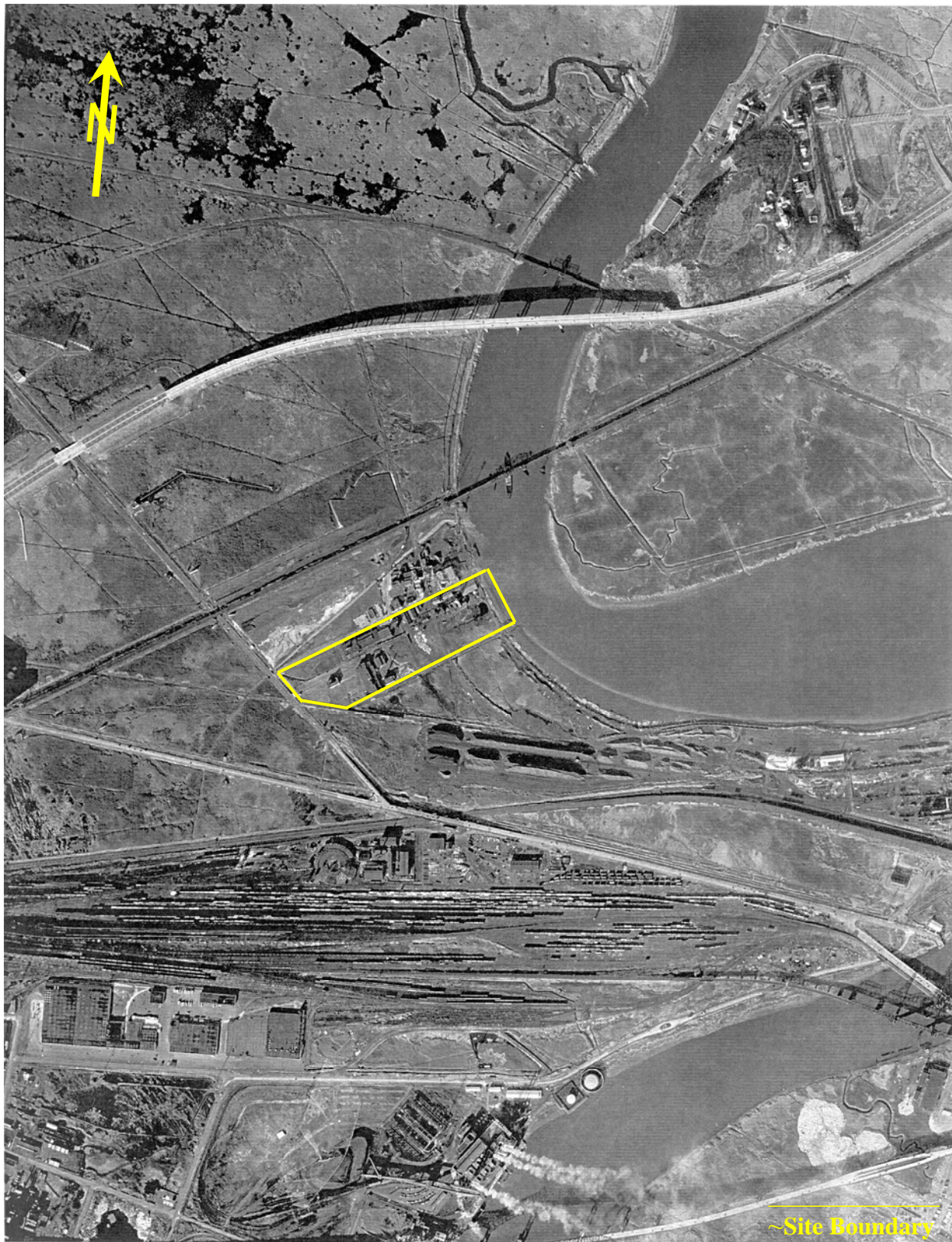


SCCC SITE PRIOR TO INTERIM REMEDIAL MEASURES (1986)

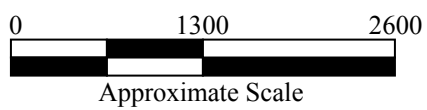


SCCC SITE AFTER INTERIM REMEDIAL MEASURES (2006)



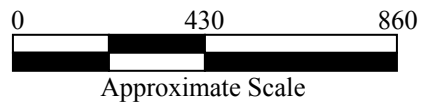


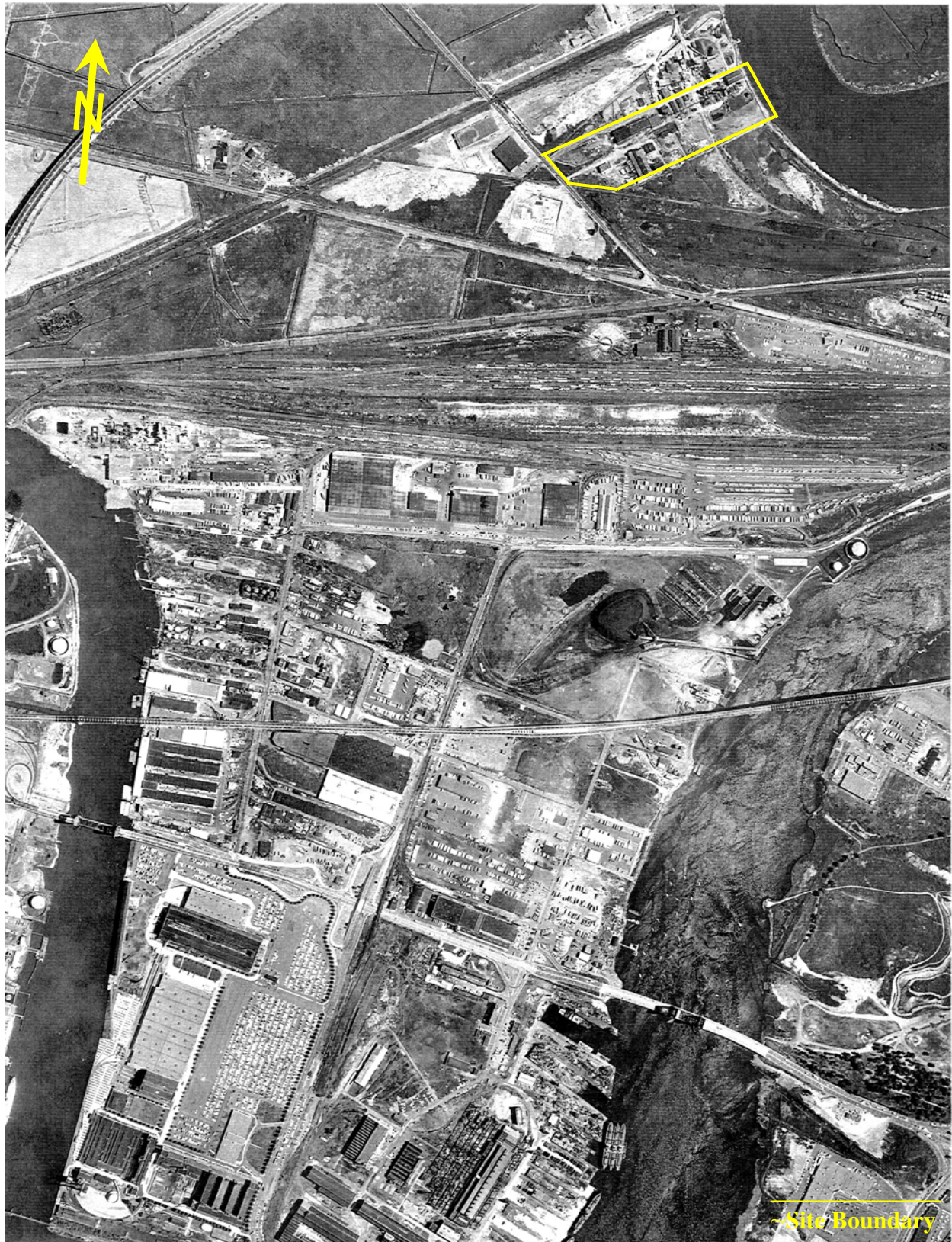
SCCC SITE AERIAL PHOTOGRAPH – 1953



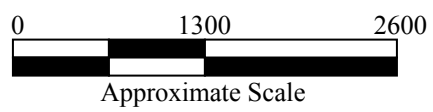


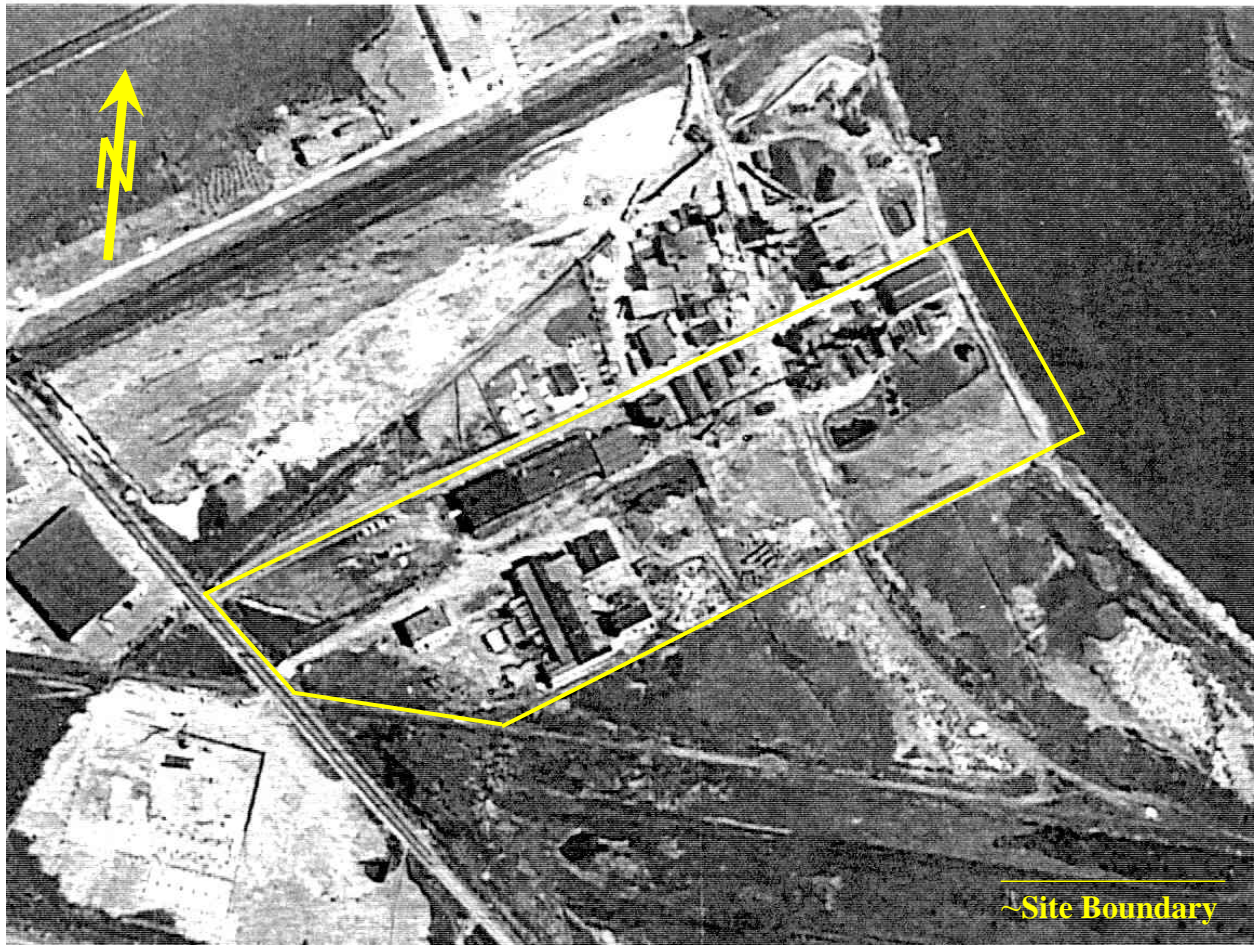
**SCCC SITE AERIAL PHOTOGRAPH – 1953
(ENLARGED PORTION OF ORIGINAL)**



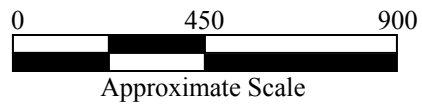


SCCC SITE AERIAL PHOTOGRAPH – 1966



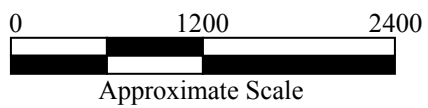


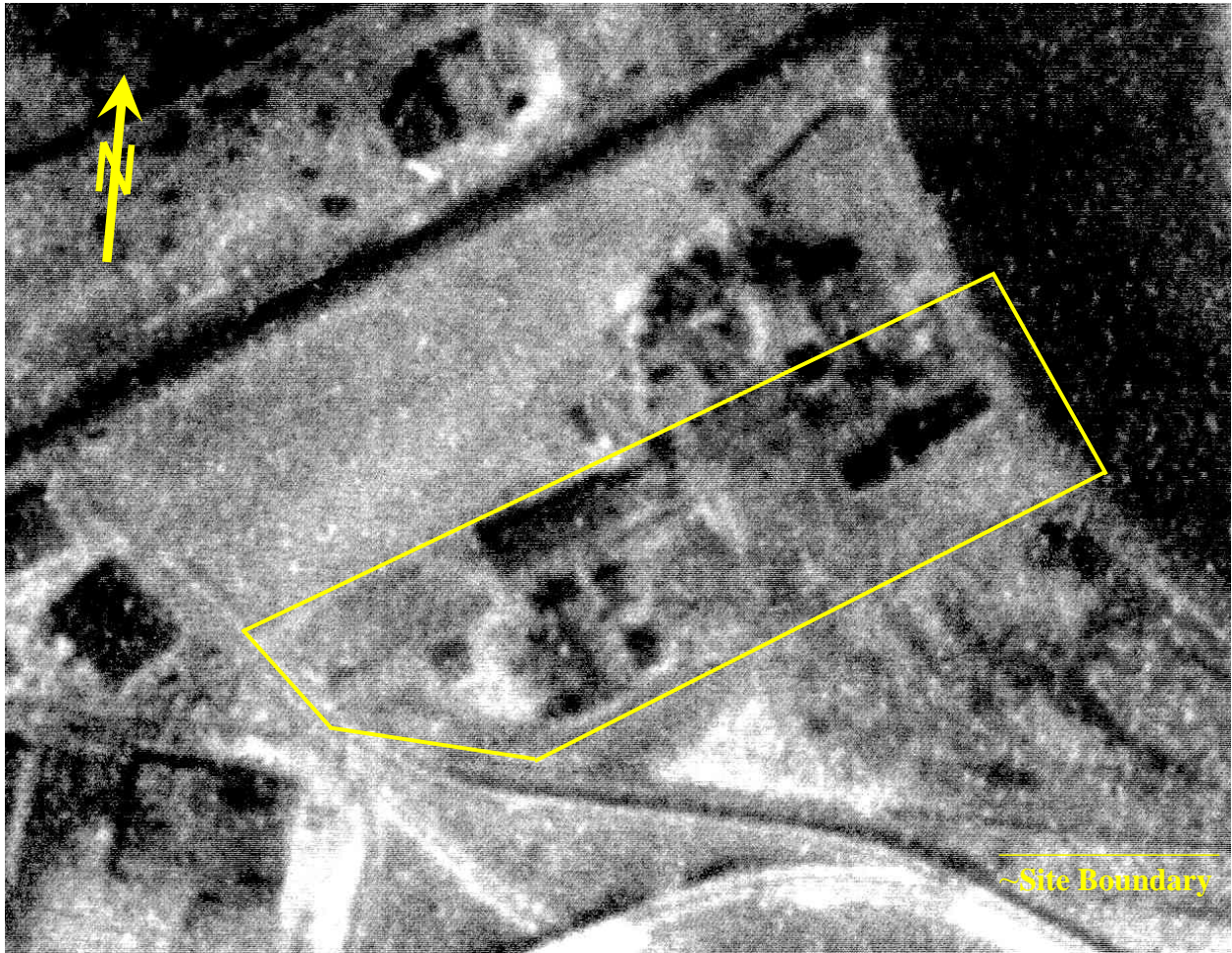
**SCCC SITE AERIAL PHOTOGRAPH – 1966
(ENLARGED PORTION OF ORIGINAL)**



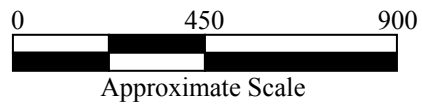


SCCC SITE AERIAL PHOTOGRAPH – 1976



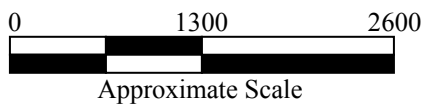


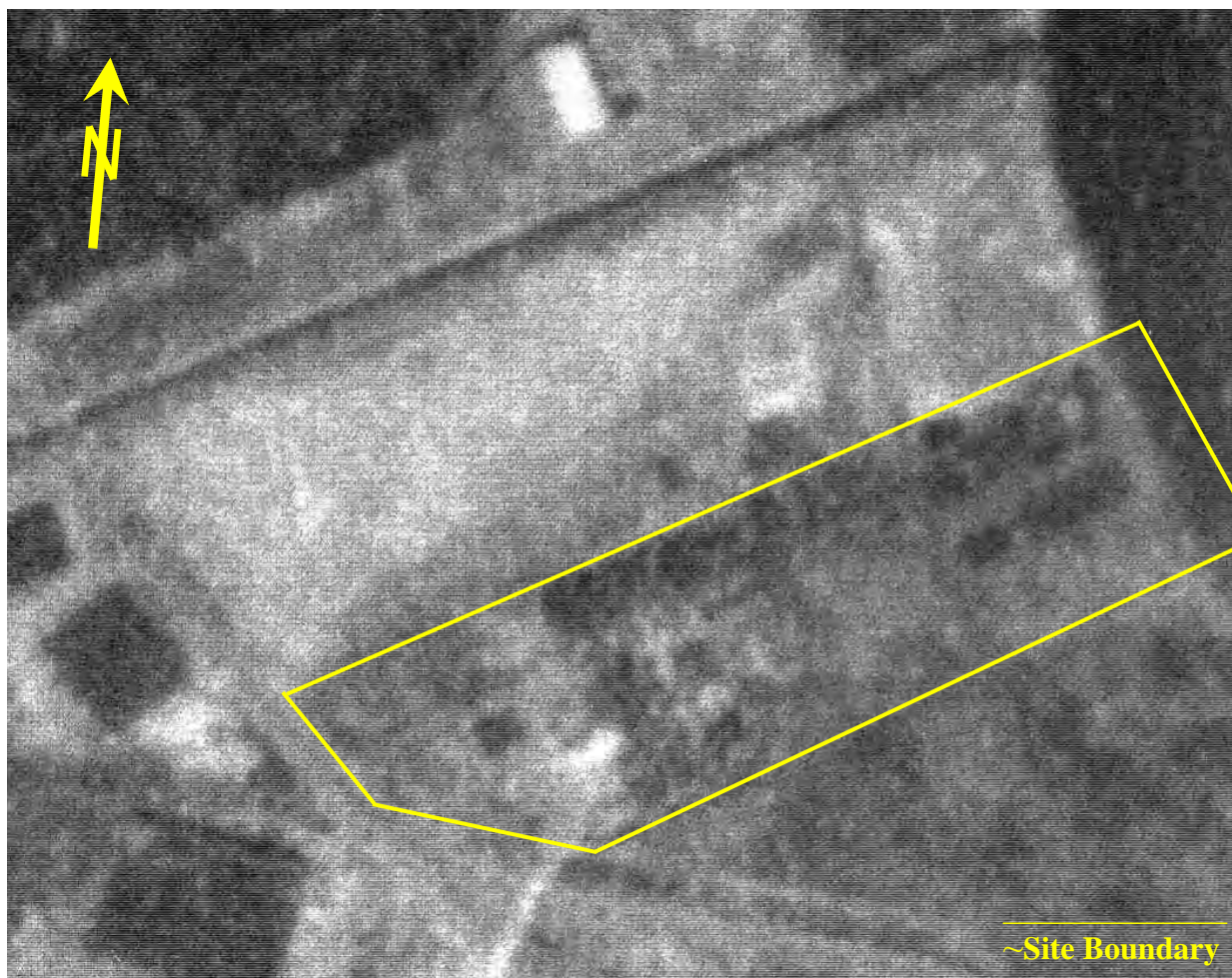
**SCCC SITE AERIAL PHOTOGRAPH – 1976
(ENLARGED PORTION OF ORIGINAL)**



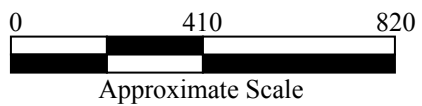


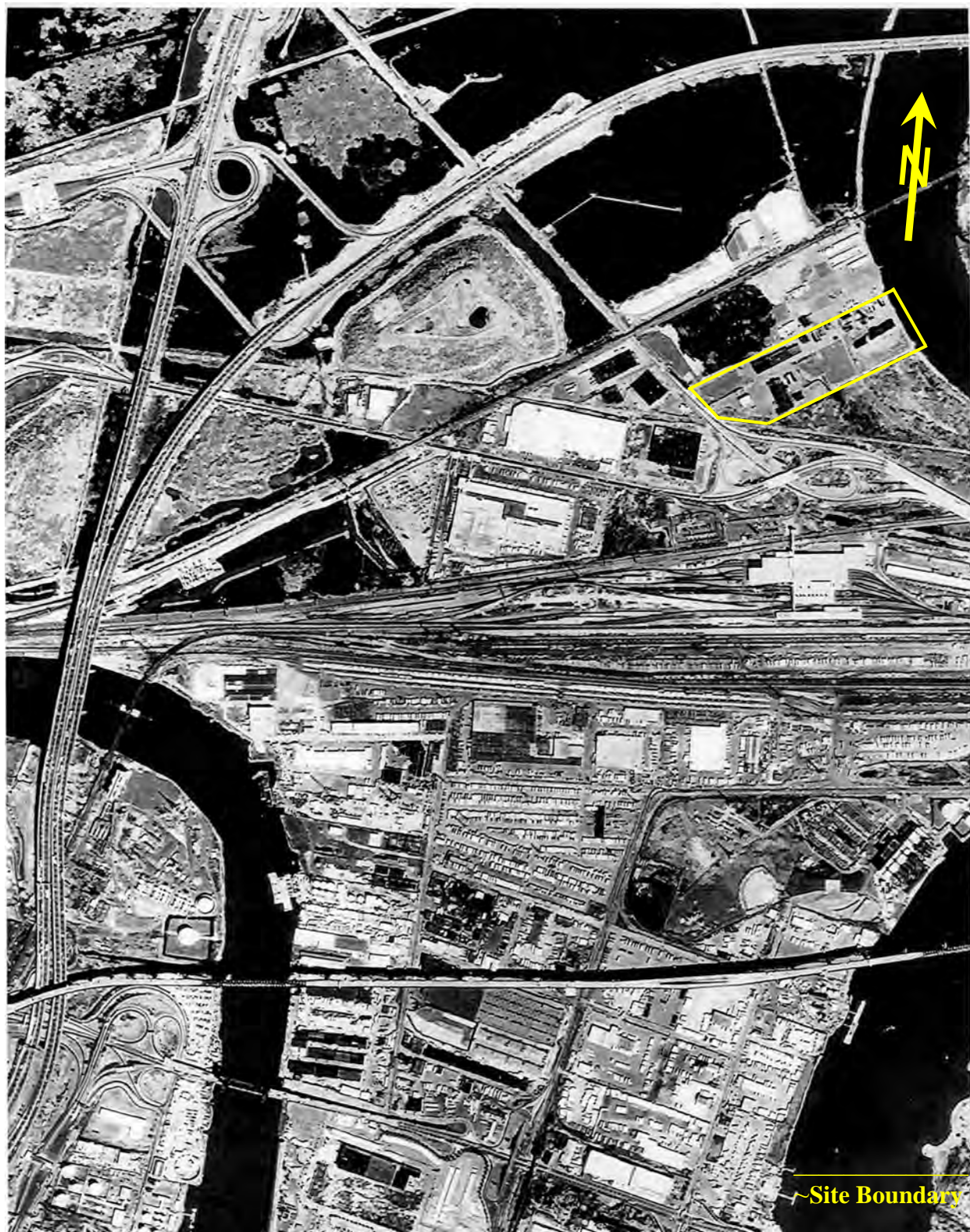
SCCC SITE AERIAL PHOTOGRAPH – 1985



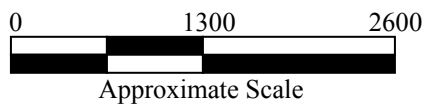


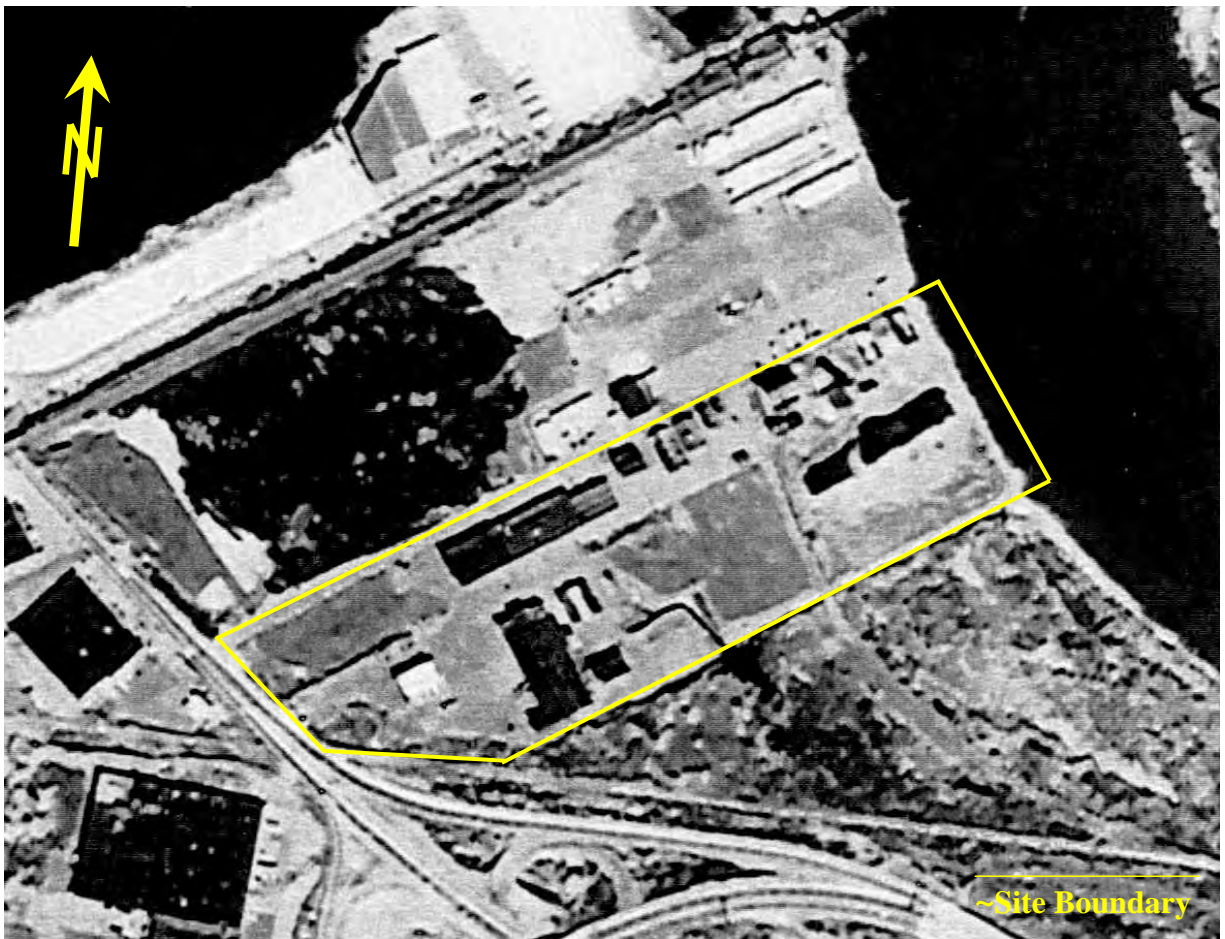
**SCCC SITE AERIAL PHOTOGRAPH - 1985
(ENLARGED PORTION OF ORIGINAL)**



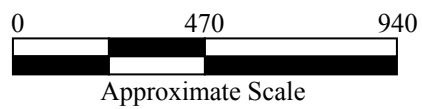


SCCC SITE AERIAL PHOTOGRAPH – 1995





**SCCC SITE AERIAL PHOTOGRAPH – 1995
(ENLARGED PORTION OF ORIGINAL)**



APPENDIX B

HISTORICAL CHEMICAL ANALYTICAL RESULTS

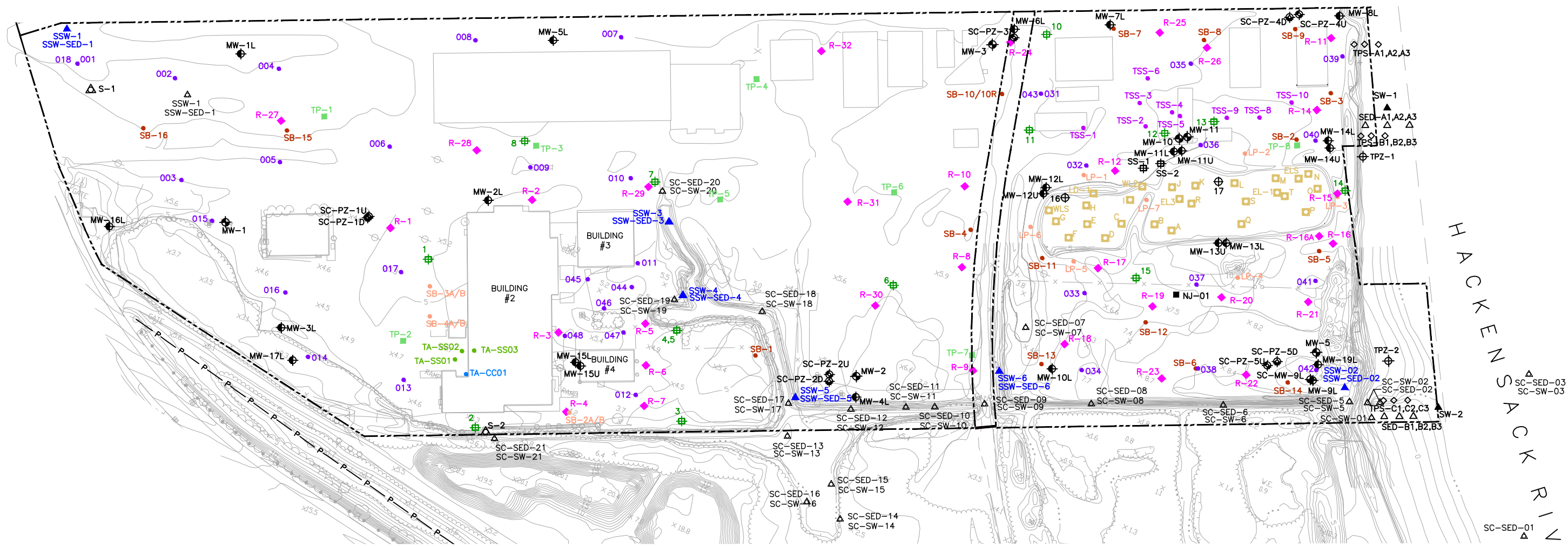
Figure B-1 Sample Location Map

Table B-1	COPR Surface Soil Samples (1991)
Table B-2	Tank Area Surface Soil Samples (1990)
Table B-3	TCDD Characterization Surface Soil Samples (1985)
Table B-4	Transformer Area Concrete Chip and Soil Samples (1998)
Table B-5	DNAPL Delineation Borings (1990 and 1999)
Table B-6	Soil Borings (1990 – 1999)
Table B-7	Test Pit Subsurface Soil Samples (1993)
Table B-8	Groundwater – Fill Unit Monitoring Wells (1991)
Table B-9	Groundwater – Fill Unit Piezometers (1983)
Table B-10	Groundwater – Sand Unit Monitoring Wells (1991 – 1999)
Table B-11	Groundwater – Sand Unit Piezometers (1983)
Table B-12	Surface Water Samples – South Ditch (1991 – 2002)
Table B-13	Surface Water Samples – Hackensack River (1996 - 2002)
Table B-14	Lagoon Solids Samples and Perimeter Soil Boring Samples (1985-1987)
Table B-15	Lagoon Solids Samples (1991)
Table B-16	Sediment Samples – South Ditch (1991 – 2002)
Table B-17	Sediment Samples (1991)
Table B-18	Sediment Samples – Hackensack River (1996 - 2002)

Note: All data qualifiers are as reported in original source documents and reports. No laboratory packages were available for these data, therefore, detection limits are not always available. Where an analyte was reported as “Not Detected”, “ND” or “U”, no value was put in these tables unless a value was presented in the document. Dashes are used when no analyses were conducted.

**COMPLETE FIGURES, TABLES, AND APPENDICES FROM THE
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT
(DECEMBER 2012, REVISED MARCH 2013)**

v:\000\kern\site characterization summary report\appendix b\Figure b-1.dwg Last Saved By: Scomer 11/26/2012 4:36 PM Plotted By: Shelly Comer 11/26/2012 4:48 PM Scale: 1:2



LEGEND

- SITE BOUNDARY
- BUILDING/STRUCTURE
- x-x- FENCELINE
- TANK
- BUSH/TREELINE
- RIVER/CHANNEL/LAGOON
- 10' EXISTING GROUND SURFACE ELEVATION
- UTILITY POLE
- GUARD RAIL
- STORM DRAIN
- RAILROAD LINE

- 8# SURFACE SOIL SAMPLE (WESTON)
- SS-1# SURFACE SOIL SAMPLE (WESTON)
- B, LD-1, WL2, ELS LAGOON SAMPLES (WESTON)
- B-202# SOIL BORING SAMPLE LOCATION
- LP-5# SOIL BORING SAMPLE LOCATION (WESTON)
- SB-3# SOIL BORING SAMPLE LOCATION (ERM)
- TSS-1# TANK SURFACE SOIL SAMPLE LOCATION (WESTON)
- TA-SS01# SOIL SAMPLE LOCATION (KEY)
- TA-CC01# PCB/SOIL SAMPLE LOCATION
- 001# SURFACE SOIL SAMPLE LOCATION (FRENCH AND PARRELLO)
- A-SERIES (TPS-A1,A2,A3) SEDIMENT SAMPLE LOCATION (ESI)
- SED-A1,A2,A3 SEDIMENT SAMPLE LOCATION (ERM)

- 113-B-135 SOIL SAMPLE LOCATION (BROWN & CALDWELL)
- 113-W-118 SHALLOW GROUNDWATER MONITORING WELL
- 113-W-106 DEEP GROUNDWATER MONITORING WELL
- PIEZOMETER LOCATION (SHALLOW)
- PIEZOMETER LOCATION (DEEP)
- MW-5# MONITORING WELL/SOIL BORING (WESTON)
- MW-7L# MONITORING WELL/SOIL BORING (WESTON)
- SW-4# SURFACE WATER SAMPLE LOCATION (ERM)
- SSW-1# SURFACE WATER AND SEDIMENT SAMPLE LOCATION (WESTON)
- SED-04# SURFACE WATER AND SEDIMENT SAMPLE LOCATION (USEPA)

- △ SURFACE WATER SAMPLE:
 - A = COLLECTED AT SURFACE ON SHORE EDGE
 - B = COLLECTED 40' OFFSHORE TOTAL WATER DEPTH 15'
 - C = COLLECTED 80' OFFSHORE TOTAL WATER DEPTH 25'
- TPZ-1# TEMPORARY MONITORING WELL LOCATION (WESTON)
- 16# SEDIMENT SAMPLE (E.C. JORDON)
- TP-1# TEST PIT LOCATION (WESTON)
- R-25# ROST BORING LOCATION



COOPERATING PARTIES GROUP

DRWN: SCC	DATE: 11/13/12
CHKD: RJH	DATE: 11/13/12
APPD: JSZ	DATE: 11/13/12
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT
STANDARD CHLORINE COMPANY INC. SITE
KEARNY, HUDSON COUNTY NEW JERSEY

SAMPLE LOCATION MAP
(PRE IRA DATA COLLECTION)

PROJECT NO: 2012-14
FIGURE B-1

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

REV #	DATE	DESCRIPTION	APPD

REFERENCE:

TABLE B-1
HISTORICAL ANALYTICAL RESULTS
COPR SURFACE SOIL SAMPLES (1991)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	001 08/01/91 0-0.5 Primary		002 08/01/91 0-0.5 Primary		003 08/01/91 0-0.5 Primary		004 08/01/91 0-0.5 Primary		005 08/01/91 0-0.5 Primary		006 08/01/91 0-0.5 Primary	
Metals													
Chromium	mg/Kg	722		17.5		1990		21.4		733		2000	
Chromium (Hexavalent)	mg/Kg	2.7	U	3	U	270		3	U	8.2		16	

Constituent of Interest	Units	007		008		009		010		011		012	
		08/01/91 0-0.5 Primary		08/01/91 0-0.5 Primary		08/01/91 0-0.5 Primary		08/01/91 0-0.5 Primary		08/01/91 0-0.5 Primary		08/01/91 0-0.5 Primary	
Metals													
Chromium	mg/Kg	2520		1490		2540		529		579		129	
Chromium (Hexavalent)	mg/Kg	13		15		110		8.6		30	U	3.6	U

Constituent of Interest	Units	013 08/01/91 0-0.5 Primary	014 08/01/91 0-0.5 Primary	015 08/01/91 0-0.5 Primary	016 08/01/91 0-0.5 Primary	017 08/01/91 0-0.5 Primary	018 08/01/91 0-0.5 Primary						
Metals													
Chromium	mg/Kg	1100		2240		520		769		511		224	
Chromium (Hexavalent)	mg/Kg	7.3		13		3.4		12		3.8		3	

Constituent of Interest	Units	031 08/01/91 0-0.5 Primary	032 08/01/91 0-0.5 Primary	033 08/01/91 0-0.5 Primary	034 08/01/91 0-0.5 Primary	035 08/01/91 0-0.5 Primary	036 08/01/91 0-0.5 Primary						
Metals													
Chromium	mg/Kg	9900		5330		9900		18000		11000		6460	
Chromium (Hexavalent)	mg/Kg	14	U	0.65		244		0.11	U	0.39		0.26	U

Constituent of Interest	Units	037 08/01/91 0-0.5 Primary	038 08/01/91 0-0.5 Primary	039 08/01/91 0-0.5 Primary	040 08/01/91 0-0.5 Primary	041 08/01/91 0-0.5 Primary	042 08/01/91 0-0.5 Primary						
Metals													
Chromium	mg/Kg	5120		18800		11500		7050		9390		11900	
Chromium (Hexavalent)	mg/Kg	54		0.23	U	195		0.24	U	0.15		0.12	U

Constituent of Interest	Units	043 08/01/91 0-0.5 Primary		044 08/01/91 0-0.5 Primary		045 08/01/91 0-0.5 Primary		046 08/01/91 0-0.5 Primary		047 08/01/91 0-0.5 Primary		048 08/01/91 0-0.5 Primary	
Metals													
Chromium	mg/Kg	8570		579		95.7		59.7		142		188	
Chromium (Hexavalent)	mg/Kg	0.15	U	0.26	U	0.13	U	0.14	U	0.14	U	0.28	U

TABLE B-2
HISTORICAL ANALYTICAL RESULTS
TANK AREA SURFACE SOIL SAMPLES (1990)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TSS-1 12/01/90 0-0.5 Primary		TSS-2 12/01/90 0-0.5 Primary		TSS-3 12/01/90 0-0.5 Primary		TSS-4 12/01/90 0-0.5 Primary		TSS-5 12/01/90 0-0.5 Primary		TSS-6 12/01/90 0-0.5 Primary		TSS-7 12/01/90 0-0.5 Primary		TSS-8 12/01/90 0-0.5 Primary		TSS-9 12/01/90 0-0.5 Primary		TSS-9D 12/01/90 0-0.5 Duplicate		TSS-10 12/01/90 0-0.5 Primary	
Volatile Organics																							
1,2-Dichloroethene	mg/Kg	10	U	2.3	U	0.0026	U	1.2	U	0.0765		0.028	U	0.0205		0.0024	U	3	U	2.4	U	0.0025	U
Benzene	mg/Kg	27	U	6.4	U	0.0072	U	3.3	U	0.11	U	0.076	U	0.0075	U	0.0067	U	8.1	U	6.6	U	0.0069	U
Chlorobenzene	mg/Kg	99.6		8.7	U	0.0098	U	5.94		0.3		0.1	U	0.01	U	0.0091	U	33.5		68.4		0.0891	
Methylene chloride	mg/Kg	18	U	5.69		0.0046	U	2.1	U	0.114		0.0708		0.00657		0.0042	U	7.02		5.98		0.0044	U
Tetrachloroethene	mg/Kg	26	U	5.9	U	0.0067	U	3.1	U	2.31		0.071	U	0.0125		0.0062	U	7.6	U	6.1	U	0.00991	
Trichloroethene	mg/Kg	12	U	2.8	U	0.0031	U	1.4	U	0.866		0.033	U	0.0292		0.0029	U	3.5	U	2.8	U	0.003	U
Semivolatile Organics																							
1,2,4-Trichlorobenzene	mg/Kg	75000		3040		6.36		14100		68200		30.1		25.4		28.3		100000		200000		62.8	
1,2-Dichlorobenzene	mg/Kg	3850		4680		12.1		34.4		522		10.8		3.78		2.9	U	4340		6470		6.53	
1,3-Dichlorobenzene	mg/Kg	1210		738		14.5		9.59		394		9.5		6.4		2.9	U	1270		1550		66.2	
1,4-Dichlorobenzene	mg/Kg	2230		4840		54.6		15		52.2		15.7		7.4	U	6.6	U	876		1200		41.7	
Acenaphthene	mg/Kg	92		219		3.1	U	2.9	U	11.8		3.3	U	3.2	U	2.9	U	3.5	U	2.8	U	3.81	
Acenaphthylene	mg/Kg	24.1		5.1	U	5.7	U	5.3	U	9	U	6	U	5.9	U	5.3	U	6.5	U	5.2	U	5.5	U
Anthracene	mg/Kg	46.2		7.29		3.1	U	2.9	U	4.9	U	3.3	U	3.2	U	2.9	U	3.83		4.27		8.05	
Benzo(a)anthracene	mg/Kg	49	U	11	U	13	U	12	U	20	U	13	U	13	U	12	U	14	U	12	U	12	U
Benzo(a)pyrene	mg/Kg	16	U	3.84		34.1		6.58		6.4	U	4.91		4.95		3.8	U	4.6	U	3.7	U	3.9	U
Benzo(b)fluoranthene	mg/Kg	30	U	6.9	U	65.8		16.7		14		11.6		8.7		7.2	U	33.1		7.1	U	7.5	U
Benzo(ghi)perylene	mg/Kg	26	U	5.9	U	31.4		7.94		11	U	9.05		10.5		6.2	U	9		6.81		6.4	U
Bis(2-ethylhexyl)phthalate	mg/Kg	63	U	14	U	16	U	15	U	30		34.5		44.5		15	U	19	U	15	U	16	U
Chrysene	mg/Kg	41.9		7.42		14.6		12		12.5		6.67		4.83		3.8	U	21.5		17.2		10.9	
Dibenzo(a,h)anthracene	mg/Kg	16	U	3.6	U	7.28		3.8	U	6.4	U	4.3	U	4.2	U	3.8	U	4.6	U	3.7	U	3.9	U
Di-n-butyl phthalate	mg/Kg	63	U	14	U	16	U	15	U	26	U	17	U	17	U	15	U	19	U	15	U	16	U
Fluoranthene	mg/Kg	121		12.3		7.28		8.99		12.3		5.33		3.7	U	3.3	U	33.8		23.4		18.9	
Fluorene	mg/Kg	213		45.6		3.1	U	2.9	U	4.9	U	3.3	U	3.2	U	2.9	U	3.5	U	2.8	U	24.4	
Hexachlorobenzene	mg/Kg	45		137		3.1	U	30.4		359		56.9		21.1		2.9	U	34.8		23.8		3	U
Hexachlorobutadiene	mg/Kg	5.6	U	8.52		1.5	U	1.4	U	2.3	U	1.5	U	1.5	U	1.4	U	1.7	U	1.3	U	1.4	U
Indeno(1,2,3-cd)pyrene	mg/Kg	23	U	5.4	U	35.9		10.5		9.5	U	10.1		11.3		5.6	U	11.1		7.66		5.8	U
Naphthalene ⁽¹⁾	mg/Kg	2370000		167		191		5.02		4.1	U	51.8		7.31		16.7		3	U	2.4	U	448	
Phenanthrene	mg/Kg	428		35.3		8.9	U	10.9		19.3		9.3	U	9.1	U	8.1	U	59.7		59.9		179	
Pyrene	mg/Kg	70.5		8.02		6.69		5.8		7.69		4.31		3.2	U	2.9	U	17.1		11.9		21.5	

1. Naphthalene results as reported by Weston exceed pure product concentration.
Likely as quantitated by the laboratory by instruments outside linear calibration range.

TABLE B-3
HISTORICAL ANALYTICAL RESULTS
TCDD CHARACTERIZATION SURFACE SOIL SAMPLES (1985)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	1		2		3		4		5	
		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Duplicate	
Polychlorinated Dioxins and Furans											
2,3,7,8-TCDD	ug/Kg	0.15	U	0.6	U	0.037	U	0.62	U	0.62	U

Constituent of Interest	Units	6		7		8		10		11	
		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary		05/07/85 0-0.5 Primary	
Polychlorinated Dioxins and Furans											
2,3,7,8-TCDD	ug/Kg	0.54	U	0.67	U	0.23	U	0.29	U	0.16	U

Constituent of Interest	Units	12_5-85 05/07/85 0-0.5 Primary	12_8-85 08/01/85 1.5-2 Primary	13_5-85 05/07/85 0-0.5 Primary	13_8-85 08/01/85 1.5-2 Primary	14 05/07/85 0-0.5 Primary				
Polychlorinated Dioxins and Furans										
2,3,7,8-TCDD	ug/Kg	0.52	0.23	U	0.7	U	0.13	U	0.62	U

Constituent of Interest	Units	15 05/07/85 0-0.5 Primary	16 05/07/85 0-0.5 Primary	NJ-01 08/01/85 0-0.5 Primary	SS-1 03/01/87 0-0.5 Primary	SS-2 03/01/87 0-0.5 Primary				
Polychlorinated Dioxins and Furans										
2,3,7,8-TCDD	ug/Kg	0.29	U	59.5	0.16	U	1.1	U	1.4	U

Note: Sample 9 was an equipment blank.

TABLE B-4
HISTORICAL ANALYTICAL RESULTS
TRANSFORMER AREA CONCRETE CHIP AND SURFACE SOIL SAMPLES (1998)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TA-CC01 10/09/98 0-0.5 Primary	TA-SS01 10/09/98 0-0.5 Primary	TA-SS02 10/09/98 0-0.5 Primary	TA-SS03 10/09/98 0-0.5 Primary
Polychlorinated Biphenyls (Aroclors)					
Aroclor 1254	mg/Kg	22	U	0.034	U
Aroclor 1260	mg/Kg	9300		0.15	
Total PCBs	mg/Kg	9300		0.15	

TABLE B-5
HISTORICAL ANALYTICAL RESULTS - DNAPL DELINEATION BORINGS (1990 and 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-2L 12/01/90 0-0.5 Primary	SC-MW-16L 01/13/99 0-2 Primary	SC-MW-16L 01/13/99 8-10 Primary	SC-MW-17L 01/13/99 0-2 Primary	SC-MW-17L 01/13/99 10-12 Primary
Volatile Organics						
1,1,1-Trichloroethane	mg/Kg	0.4	U	--	--	--
Benzene	mg/Kg	0.47	U	--	--	--
Carbon tetrachloride	mg/Kg	0.3	U	--	--	--
Chlorobenzene	mg/Kg	0.64	U	--	--	--
Chloromethane	mg/Kg	1.1	U	--	--	--
Tetrachloroethene	mg/Kg	0.44	U	--	--	--
Toluene	mg/Kg	0.64	U	--	--	--
Semivolatile Organics						
1,2,4-Trichlorobenzene	mg/Kg	0.46	U	0.12	U	0.13
1,2-Dichlorobenzene	mg/Kg	1.14		0.076		0.13
1,3-Dichlorobenzene	mg/Kg	0.833		0.075		0.052
1,4-Dichlorobenzene	mg/Kg	1.29		0.12	U	0.13
2,4-Dimethylphenol	mg/Kg	0.66	U	0.38	U	0.22
2-Chlorophenol	mg/Kg	--		0.38	U	0.43
2-Methylnaphthalene	mg/Kg	--		0.12	U	0.14
2-Methylphenol	mg/Kg	--		0.38	U	0.44
4-Methylphenol	mg/Kg	--		0.38	U	0.44
Acenaphthene	mg/Kg	1.1		0.12	U	0.14
Acenaphthylene	mg/Kg	--		0.062		0.14
Anthracene	mg/Kg	0.587		0.091		0.14
Benzo(a)anthracene	mg/Kg	1.9	U	0.28		0.14
Benzo(a)pyrene	mg/Kg	0.61	U	0.36		0.14
Benzo(b)fluoranthene	mg/Kg	1.8		0.45		0.041
Benzo(ghi)perylene	mg/Kg	1	U	0.048		0.14
Benzo(k)fluoranthene	mg/Kg	--		0.19	U	0.21
Bis(2-ethylhexyl)phthalate	mg/Kg	9.92		0.1		0.17
Butyl benzyl phthalate	mg/Kg	--		0.12	U	0.075
Carbazole	mg/Kg	--		0.12	U	0.13
Chrysene	mg/Kg	0.629		0.039		0.13
Dibenzo(a,h)anthracene	mg/Kg	--		0.12	U	0.14
Dibenzofuran	mg/Kg	--		0.12	U	0.14
Diethyl phthalate	mg/Kg	--		0.12	U	0.13
Dimethyl phthalate	mg/Kg	--		0.12	U	0.13
Di-n-butyl phthalate	mg/Kg	3.06		0.12	U	0.13
Di-n-octyl phthalate	mg/Kg	--		0.12	U	0.13
Fluoranthene	mg/Kg	3.14		0.46		0.38
Fluorene	mg/Kg	1.36		0.12	U	0.14
Hexachlorobenzene	mg/Kg	--		0.12	U	0.14
Hexachlorobutadiene	mg/Kg	--		0.12	U	0.14
Indeno(1,2,3-cd)pyrene	mg/Kg	0.9	U	0.19		0.14
Naphthalene	mg/Kg	3.22		0.12	U	0.14
N-Nitrosodiphenylamine	mg/Kg	--		0.12	U	0.15
Pentachlorophenol	mg/Kg	--		2	U	2.3
Phenanthrene	mg/Kg	3.66		0.21		2.2
Phenol	mg/Kg	--		0.38	U	0.17
Pyrene	mg/Kg	1.89		0.41		0.5
Metals						
Antimony	mg/Kg	13	U	--	--	--
Arsenic	mg/Kg	2.1	U	--	--	--
Beryllium	mg/Kg	0.21	U	--	--	--
Cadmium	mg/Kg	0.93		--	--	--
Chromium	mg/Kg	593		--	--	--
Copper	mg/Kg	26		--	--	--
Lead	mg/Kg	640		--	--	--
Mercury	mg/Kg	0.17	U	--	--	--
Nickel	mg/Kg	45		--	--	--
Silver	mg/Kg	2.1	U	--	--	--
Zinc	mg/Kg	55		--	--	--
RCRA Characteristics and Indicators						
Cyanide (Reactivity)	mg/Kg	1.2		--	--	--

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-01 08/16/96 15.5-16 Primary	SB-03 08/05/96 14.5-15 Primary	SB-04 08/12/96 15-15.5 Primary	SB-07 08/16/96 15.5-16 Primary	SB-09 08/12/96 1.5-2 Primary	SB-09 08/12/96 15-15.5 Primary	SB-10R 08/16/96 16-16.5 Primary
Volatile Organics								
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/Kg	ND	1770	1000	ND	0.0326	345	2140
1,2,4-Trichlorobenzene	mg/Kg	0.002	6540	1870	ND	0.0203	1180	2290
1,2,4-Trimethylbenzene	mg/Kg	ND	ND	ND	65.5	ND	ND	60.8
1,2-Dichlorobenzene	mg/Kg	0.115	1080	1310	ND	0.00598	506	2320
1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/Kg	ND	--	--	23.9	--	--	ND
1,3-Dichlorobenzene	mg/Kg	0.043	1700	433	ND	0.00329	210	557
1,4-Dichlorobenzene	mg/Kg	0.089	1630	677	ND	0.00559	257	1160
2-Butanone	mg/Kg	--	--	--	--	--	--	--
Acetone	mg/Kg	--	ND	ND	--	ND	ND	--
Benzene	mg/Kg	--	--	--	--	--	--	--
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	--	ND	ND	--	ND	42.6	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--
n-Butylbenzene	mg/Kg	--	ND	57.8	--	ND	ND	--
Styrene	mg/Kg	--	--	--	--	--	--	--
Tetrachloroethene	mg/Kg	--	ND	ND	--	ND	56.9	--
Toluene	mg/Kg	--	--	--	--	--	--	--
Trichloroethene	mg/Kg	--	ND	ND	--	0.0056	ND	--
Xylene (total)	mg/Kg	ND	--	--	62.6	--	--	ND
Semivolatile Organics								
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	--	--	--	--	--	--	--
Acenaphthylene	mg/Kg	--	--	--	--	--	--	--
Anthracene	mg/Kg	--	--	--	--	--	--	--
Benzo(a)anthracene	mg/Kg	--	--	--	--	--	--	--
Benzo(a)pyrene	mg/Kg	--	--	--	--	--	--	--
Benzo(b)fluoranthene	mg/Kg	--	--	--	--	--	--	--
Benzo(ghi)perylene	mg/Kg	--	--	--	--	--	--	--
Benzo(k)fluoranthene	mg/Kg	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	--	--	--	--	--	--	--
Butyl benzyl phthalate	mg/Kg	--	--	--	--	--	--	--
Carbazole	mg/Kg	--	--	--	--	--	--	--
Chrysene	mg/Kg	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	mg/Kg	--	--	--	--	--	--	--
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	--	--	--	--	--	--	--
Fluorene	mg/Kg	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--
Hexachlorobutadiene	mg/Kg	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	--	--	--	--	--	--	--
Naphthalene	mg/Kg	0.026	1010	2400	1820	0.191	181	5750
N-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	--	--	--	--	--	--	--
Phenol	mg/Kg	--	--	--	--	--	--	--
Pyrene	mg/Kg	--	--	--	--	--	--	--

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-01 08/16/96 15.5-16 Primary	SB-03 08/05/96 14.5-15 Primary	SB-04 08/12/96 15-15.5 Primary	SB-07 08/16/96 15.5-16 Primary	SB-09 08/12/96 1.5-2 Primary	SB-09 08/12/96 15-15.5 Primary	SB-10R 08/16/96 16-16.5 Primary
Polychlorinated Biphenyls								
Aroclor 1248	mg/Kg	--	--	--	--	--	--	--
Aroclor 1254	mg/Kg	--	--	--	--	--	--	--
Aroclor 1260	mg/Kg	--	--	--	--	--	--	--
Metals								
Antimony	mg/Kg	--	--	--	--	--	--	--
Arsenic	mg/Kg	--	--	--	--	--	--	--
Beryllium	mg/Kg	--	--	--	--	--	--	--
Cadmium	mg/Kg	--	--	--	--	--	--	--
Chromium	mg/Kg	--	--	--	--	--	--	--
Copper	mg/Kg	--	--	--	--	--	--	--
Lead	mg/Kg	--	--	--	--	--	--	--
Mercury	mg/Kg	--	--	--	--	--	--	--
Nickel	mg/Kg	--	--	--	--	--	--	--
Selenium	mg/Kg	--	--	--	--	--	--	--
Silver	mg/Kg	--	--	--	--	--	--	--
Thallium	mg/Kg	--	--	--	--	--	--	--
Zinc	mg/Kg	--	--	--	--	--	--	--
RCRA Characteristics								
Cyanide (Reactivity)	mg/Kg	--	--	--	--	--	--	--

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-14 08/07/96 18.5-19 Primary	SC-SB-15 01/14/99 0-2 Primary	SC-SB-15 01/14/99 8-10 Primary	SC-SB-15 01/14/99 16-18 Primary	SC-SB-16 01/14/99 0-2 Primary	SC-SB-16 01/14/99 10-12 Primary	SC-SB-16 01/14/99 16-18 Primary
Volatile Organics								
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	mg/Kg	0.0919	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	0.35	0.12	U	0.4	U	0.47	U
1,2,4-Trimethylbenzene	mg/Kg	0.00215	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/Kg	0.0702	0.12	U	0.4	U	0.47	U
1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/Kg	--	--	--	--	--	--	--
1,3-Dichlorobenzene	mg/Kg	0.0509	0.12	U	0.4	U	0.47	U
1,4-Dichlorobenzene	mg/Kg	0.0535	0.12	U	0.4	U	0.47	U
2-Butanone	mg/Kg	--	--	--	--	--	--	--
Acetone	mg/Kg	0.135	--	--	--	--	--	--
Benzene	mg/Kg	--	--	--	--	--	--	--
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	0.00349	--	--	--	--	--	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--
n-Butylbenzene	mg/Kg	ND	--	--	--	--	--	--
Styrene	mg/Kg	--	--	--	--	--	--	--
Tetrachloroethene	mg/Kg	ND	--	--	--	--	--	--
Toluene	mg/Kg	--	--	--	--	--	--	--
Trichloroethene	mg/Kg	ND	--	--	--	--	--	--
Xylene (total)	mg/Kg	--	--	--	--	--	--	--
Semivolatile Organics								
2,4-Dimethylphenol	mg/Kg	--	0.41	U	1.3	U	0.36	U
2-Chlorophenol	mg/Kg	--	0.41	U	1.3	U	1.6	U
2-Methylnaphthalene	mg/Kg	--	0.11	U	0.4	U	0.15	U
2-Methylphenol	mg/Kg	--	0.41	U	1.3	U	0.5	U
4-Methylphenol	mg/Kg	--	0.41	U	1.3	U	0.32	U
Acenaphthene	mg/Kg	--	0.24	U	0.4	U	0.15	U
Acenaphthylene	mg/Kg	--	0.13	U	0.4	U	0.15	U
Anthracene	mg/Kg	--	0.57	U	0.4	U	0.15	U
Benzo(a)anthracene	mg/Kg	--	1.5	U	0.2	U	0.15	U
Benzo(a)pyrene	mg/Kg	--	0.12	U	0.21	U	0.15	U
Benzo(b)fluoranthene	mg/Kg	--	2.2	U	0.3	U	0.15	U
Benzo(ghi)perylene	mg/Kg	--	0.2	U	0.4	U	0.15	U
Benzo(k)fluoranthene	mg/Kg	--	2.2	U	0.4	U	0.15	U
Bis(2-ethylhexyl)phthalate	mg/Kg	--	120	U	0.29	U	0.071	U
Butyl benzyl phthalate	mg/Kg	--	0.12	U	0.4	U	0.15	U
Carbazole	mg/Kg	--	0.36	U	0.4	U	0.15	U
Chrysene	mg/Kg	--	6.4	U	0.2	U	0.15	U
Dibenzo(a,h)anthracene	mg/Kg	--	0.45	U	0.4	U	0.15	U
Dibenzofuran	mg/Kg	--	0.16	U	0.4	U	0.15	U
Diethyl phthalate	mg/Kg	--	0.12	U	0.4	U	0.15	U
Dimethyl phthalate	mg/Kg	--	0.12	U	0.4	U	0.15	U
Di-n-butyl phthalate	mg/Kg	--	0.12	U	0.4	U	0.15	U
Di-n-octyl phthalate	mg/Kg	--	190	U	0.4	U	0.15	U
Fluoranthene	mg/Kg	--	3.1	U	0.4	U	0.15	U
Fluorene	mg/Kg	--	0.24	U	0.4	U	0.15	U
Hexachlorobenzene	mg/Kg	--	0.12	U	0.4	U	0.15	U
Hexachlorobutadiene	mg/Kg	--	0.12	U	0.4	U	0.15	U
Indeno(1,2,3-cd)pyrene	mg/Kg	--	0.86	U	0.4	U	0.15	U
Naphthalene	mg/Kg	0.0572	0.21	U	0.4	U	0.07	U
N-Nitrosodiphenylamine	mg/Kg	--	0.12	U	0.4	U	0.15	U
Pentachlorophenol	mg/Kg	--	2.1	U	6.8	U	2.6	U
Phenanthrene	mg/Kg	--	2	U	0.23	U	0.15	U
Phenol	mg/Kg	--	0.41	U	1.3	U	0.5	U
Pyrene	mg/Kg	--	6.9	U	0.32	U	0.15	U

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-14 08/07/96 18.5-19 Primary	SC-SB-15 01/14/99 0-2 Primary	SC-SB-15 01/14/99 8-10 Primary	SC-SB-15 01/14/99 16-18 Primary	SC-SB-16 01/14/99 0-2 Primary	SC-SB-16 01/14/99 10-12 Primary	SC-SB-16 01/14/99 16-18 Primary
Polychlorinated Biphenyls								
Aroclor 1248	mg/Kg	--	--	--	--	--	--	--
Aroclor 1254	mg/Kg	--	--	--	--	--	--	--
Aroclor 1260	mg/Kg	--	--	--	--	--	--	--
Metals								
Antimony	mg/Kg	--	--	--	--	--	--	--
Arsenic	mg/Kg	--	--	--	--	--	--	--
Beryllium	mg/Kg	--	--	--	--	--	--	--
Cadmium	mg/Kg	--	--	--	--	--	--	--
Chromium	mg/Kg	--	--	--	--	--	--	--
Copper	mg/Kg	--	--	--	--	--	--	--
Lead	mg/Kg	--	--	--	--	--	--	--
Mercury	mg/Kg	--	--	--	--	--	--	--
Nickel	mg/Kg	--	--	--	--	--	--	--
Selenium	mg/Kg	--	--	--	--	--	--	--
Silver	mg/Kg	--	--	--	--	--	--	--
Thallium	mg/Kg	--	--	--	--	--	--	--
Zinc	mg/Kg	--	--	--	--	--	--	--
RCRA Characteristics								
Cyanide (Reactivity)	mg/Kg	--	--	--	--	--	--	--

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-2A 1992 Fill Primary		SB-2B 1992 Sand Primary		SB-3A 1992 Fill Primary		SB-3B 1992 Sand Primary		SB-4A 1992 Fill Primary		SB-4B 1992 Sand Primary	
Volatile Organics													
1,1,1-Trichloroethane	mg/Kg	0.013	U	71	U	0.36		1.5	U	0.5		0.46	
1,2,3-Trichlorobenzene	mg/Kg	--		--		--		--		--		--	
1,2,4-Trichlorobenzene	mg/Kg	6		71	U	34		260	U	12	U	12	U
1,2,4-Trimethylbenzene	mg/Kg	--		--		--		--		--		--	
1,2-Dichlorobenzene	mg/Kg	6.8		9200		400		260	U	98		12	U
1,2-Dichloroethene	mg/Kg	0.013	U	71	U	1.4	U	0.79	J	1.5	U	2	U
1,3,5-Trimethylbenzene	mg/Kg	--		--		--		--		--		--	
1,3-Dichlorobenzene	mg/Kg	3.5		1300		410		260	U	12		12	U
1,4-Dichlorobenzene	mg/Kg	3.4		1300		430		260	U	7		12	U
2-Butanone	mg/Kg	0.013	U	71	U	0.45		0.17	U	0.56		2	U
Acetone	mg/Kg	0.016		4.3		1.4	U	1.5	U	0.35		0.41	
Benzene	mg/Kg	0.013	U	48		0.32		0.11	J	0.15		0.6	
Carbon tetrachloride	mg/Kg	0.013	U	71	U	1.4	U	1.5	U	0.089		2	U
Chlorobenzene	mg/Kg	0.013	U	220		15		0.091	J	5.1		27	
Chloromethane	mg/Kg	0.013	U	71	U	1.4	U	0.35	J	0.18		2	J
n-Butylbenzene	mg/Kg	--		--		--		--		--		--	
Styrene	mg/Kg	0.013	U	71	U	1.4	U	1.5	U	0.12		2	U
Tetrachloroethene	mg/Kg	0.003		71	U	1.4	U	16		0.15		2	U
Toluene	mg/Kg	0.001		0.96		0.16		1.5	U	0.21		0.16	
Trichloroethene	mg/Kg	--		--		--		--		--		--	
Xylene (total)	mg/Kg	0.013	U	71	U	1.4	U	1.5	U	0.15		2	U
Semivolatile Organics													
2,4-Dimethylphenol	mg/Kg	13	U	120	U	12	U	260	U	12	U	12	U
2-Chlorophenol	mg/Kg	--		--		--		--		--		--	
2-Methylnaphthalene	mg/Kg	6.6		120	U	12	U	260	U	12	U	12	U
2-Methylphenol	mg/Kg	--		--		--		--		--		--	
4-Methylphenol	mg/Kg	--		--		--		--		--		--	
Acenaphthene	mg/Kg	25		120	U	12	U	260	U	12	U	12	U
Acenaphthylene	mg/Kg	--		--		--		--		--		--	
Anthracene	mg/Kg	90		120	U	12	U	260	U	12	U	12	U
Benzo(a)anthracene	mg/Kg	87		120	U	12	U	260	U	12	U	12	U
Benzo(a)pyrene	mg/Kg	82		120	U	12	U	260	U	12	U	12	U
Benzo(b)fluoranthene	mg/Kg	58		120	U	12	U	260	U	12	U	12	U
Benzo(ghi)perylene	mg/Kg	53		120	U	12	U	260	U	12	U	12	U
Benzo(k)fluoranthene	mg/Kg	--		--		--		--		--		--	
Bis(2-ethylhexyl)phthalate	mg/Kg	13	U	120	U	12	U	260	U	12	U	12	U
Butyl benzyl phthalate	mg/Kg	--		--		--		--		--		--	
Carbazole	mg/Kg	10		120	U	12	U	260	U	12	U	12	U
Chrysene	mg/Kg	79		120	U	12	U	260	U	12	U	12	U
Dibenzo(a,h)anthracene	mg/Kg	--		--		--		--		--		--	
Dibenzofuran	mg/Kg	15		120	U	12	U	260	U	12	U	12	U
Diethyl phthalate	mg/Kg	--		--		--		--		--		--	
Dimethyl phthalate	mg/Kg	--		--		--		--		--		--	
Di-n-butyl phthalate	mg/Kg	13	U	120	U	12	U	260	U	12	U	12	U
Di-n-octyl phthalate	mg/Kg	--		--		--		--		--		--	
Fluoranthene	mg/Kg	200		120	U	12	U	260	U	12	U	12	U
Fluorene	mg/Kg	33		120	U	12	U	260	U	12	U	12	U
Hexachlorobenzene	mg/Kg	--		--		--		--		--		--	
Hexachlorobutadiene	mg/Kg	--		--		--		--		--		--	
Indeno(1,2,3-cd)pyrene	mg/Kg	54		120	U	12	U	260	U	12	U	12	U
Naphthalene	mg/Kg	5.3		120	U	12	U	260	U	12	U	12	U
N-Nitrosodiphenylamine	mg/Kg	--		--		--		--		--		--	
Pentachlorophenol	mg/Kg	--		--		--		--		--		--	
Phenanthrene	mg/Kg	200		120	U	12	U	260	U	12	U	12	U
Phenol	mg/Kg	--		--		--		--		--		--	
Pyrene	mg/Kg	190		120	U	12	U	260	U	12	U	12	U

TABLE B-6
HISTORICAL ANALYTICAL RESULTS - SOIL BORINGS (1990 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SB-2A		SB-2B		SB-3A		SB-3B		SB-4A		SB-4B	
		1992 Fill Primary		1992 Sand Primary		1992 Fill Primary		1992 Sand Primary		1992 Fill Primary		1992 Sand Primary	
Polychlorinated Biphenyls													
Aroclor 1248	mg/Kg	1.3	U	0.039	U	0.038	U	0.042	U	0.041	U	0.066	
Aroclor 1254	mg/Kg	1.3	U	0.039	U	0.038	U	0.042	U	0.041	U	0.041	U
Aroclor 1260	mg/Kg	1.3	U	0.039	U	0.038	U	0.3	J	0.061		0.041	U
Metals													
Antimony	mg/Kg	24	U	24	U	24	U	24	U	47.5		20.1	
Arsenic	mg/Kg	4.21		4	U	2.53		2.71		41.9		13.2	
Beryllium	mg/Kg	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Cadmium	mg/Kg	0.8	U	0.8	U	0.8	U	0.8	U	4.16		1.9	
Chromium	mg/Kg	36.7		4.45		685		0.39		428		130	
Copper	mg/Kg	23.6		4	U	109		23.2		335		124	
Lead	mg/Kg	270		4.82		53		19.9		647		241	
Mercury	mg/Kg	0.55		0.32	U	0.32	U	0.32	U	0.32	U	0.32	U
Nickel	mg/Kg	9.4		8.1	U	14.6		9.73		51.8		25.5	
Selenium	mg/Kg	2	U	2	U	2	U	2	U	2	U	2	U
Silver	mg/Kg	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	mg/Kg	4	U	4	U	4	U	4	U	4	U	4	U
Zinc	mg/Kg	99.3		14.2		90.6		42.3		3710		1520	
RCRA Characteristics													
Cyanide (Reactivity)	mg/Kg	0.6	U	0.6	U	2.1		0.6	U	0.6	U	0.6	U

TABLE B-7
HISTORICAL ANALYTICAL RESULTS
TEST PIT SUBSURFACE SOIL SAMPLES (1993)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TP-1 05/01/93 4 Primary	TP-2 05/01/93 1.5 Primary	TP-3 05/01/93 2 Primary	TP-4 05/01/93 2 Primary	TP-5 05/01/93 6 Primary	TP-6 05/01/93 2.5 Primary	TP-7 05/01/93 2 Primary	TP-8 05/01/93 3 Primary
Metals									
Chromium	mg/Kg	31900	1740	26300	34900	33100	30400	32100	32600

TABLE B-8
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - FILL UNIT MONITORING WELLS (1991)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-11U 01/12/91 Primary	SC-MW-12U 01/12/91 Primary	SC-MW-13U 01/12/91 Primary	SC-MW-14U 01/12/91 Primary	SC-MW-15U 01/12/91 Primary
Volatile Organics						
1,2-Dichloroethene	ug/L	174	100	U	1.6	U
Benzene	ug/L	353	100	U	4.4	U
Chlorobenzene	ug/L	796	100	U	6	U
Chloromethane	ug/L	200	U	200	U	10
Dichlorodifluoromethane	ug/L	200	U	200	U	10
Ethylbenzene	ug/L	140	U	100	U	7.2
Methylene chloride	ug/L	56	U	101	U	2.8
Tetrachloroethylene	ug/L	96.7	100	U	4.1	U
Toluene	ug/L	120	U	100	U	20.7
Trichloroethylene	ug/L	96	100	U	1.9	U
Vinyl chloride	ug/L	200	U	200	U	10
Semivolatile Organics						
1,2,4-Trichlorobenzene	ug/L	5400	128	166	41.8	2.1
1,2-Dichlorobenzene	ug/L	5250	145	74.2	5.2	140
1,3-Dichlorobenzene	ug/L	892	65.9	25.4	4.1	78.6
1,4-Dichlorobenzene	ug/L	1910	141	51.7	9.56	109
2,4,6-Trichlorophenol	ug/L	2.9	U	15.5	3	U
2,4-Dichlorophenol	ug/L	2.9	U	3	U	3
2,4-Dimethylphenol	ug/L	1830	33.7	808	53.3	3
2-Chlorophenol	ug/L	3.6	U	3.7	U	3.6
Acenaphthene	ug/L	22.4	117	25.5	238	2.1
Acenaphthylene	ug/L	3.8	U	8.7	3.9	U
Anthracene	ug/L	9.66	3.63	2.1	U	4.2
Bis(2-chloromethyl)ether	ug/L	200	U	200	U	10
Bis(2-ethylhexyl)phthalate	ug/L	11	U	11	U	11
Fluoranthene	ug/L	2.4	U	4.26	2.5	U
Fluorene	ug/L	19.3	39.7	2.9	57.8	2.1
Hexachlorobenzene	ug/L	2.1	U	2.1	U	2.1
Naphthalene	ug/L	9660	426	5020	6540	1.8
Phenanthrene	ug/L	15.9	41.1	6.1	U	27
Phenol	ug/L	445	6.62	19300	1.7	U
Pyrene	ug/L	2.1	U	2.1	U	2.1
Metals						
Antimony	ug/L	390	60	U	62	180
Arsenic	ug/L	130	10	U	10	35
Beryllium	ug/L	2.6	1	U	1	1.9
Cadmium	ug/L	14	5.5	2	U	7.6
Chromium (Total)	ug/L	6640	2300	7150	20300	4200
Chromium (Hexavalent)	ug/L	50	U	81	7380	3320
Copper	ug/L	900	77	22	230	260
Cyanide	ug/L	197	25	U	25	31
Lead	ug/L	12500	600	75	U	2600
Mercury	ug/L	142	1.4	0.33	34.7	0.87
Nickel	ug/L	480	220	29	360	130
Selenium	ug/L	25	U	5	U	25
Silver	ug/L	10	U	10	U	10
Thallium	ug/L	10	U	10	U	10
Zinc	ug/L	550	220	28	640	620

TABLE B-9
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - FILL UNIT PIEZOMETERS (1983)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-PZ-1U 01/01/83 Primary		SC-PZ-2U 01/01/83 Primary		SC-PZ-3U 01/01/83 Primary		SC-PZ-4U 01/01/83 Primary		SC-PZ-5U 01/01/83 Primary	
Volatile Organics											
1,1,2-Trichloroethane	ug/L	10	U	10	U	10	U	10	U	5	U
1,1-Dichloroethene	ug/L	10	U	10	U	10	U	10	U	5	U
1,2-Dichloroethene	ug/L	10	U	10	U	10	U	10	U	5	U
Benzene	ug/L	10	U	10	U	65		10	U	190	
Chlorobenzene	ug/L	10	U	1500		55		93000		450	
Ethylbenzene	ug/L	10	U	10	U	10	U	10	U	5	U
Tetrachloroethylene	ug/L	10	U	10	U	25		10	U	5	U
Toluene	ug/L	10	U	10	U	10	U	10	U	5	U
Trichloroethylene	ug/L	10	U	10	U	35		10	U	5	U
Xylene (total)	ug/L	10	U	10	U	55		10	U	5	U
Semivolatile Organics											
1,2,4-Trichlorobenzene	ug/L	10	U	10	U	10	U	10	U	10	
1,2-Dichlorobenzene	ug/L	10	U	10	U	10	U	10	U	10	U
1,2-Diphenylhydrazine	ug/L	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	ug/L	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	ug/L	10	U	10	U	10	U	10		10	U
Acenaphthene	ug/L	10	U	10	U	540		10		10	U
Anthracene	ug/L	10	U	10	U	630		10		10	U
Bis(2-ethylhexyl)phthalate	ug/L	10	U	10	U	10	U	22		12	
Dimethyl phthalate	ug/L	10	U	10	U	10		10	U	10	U
Di-n-butyl phthalate	ug/L	10	U	10	U	10	U	10	U	10	U
Fluoranthene	ug/L	10	U	10	U	86		10	U	10	U
Fluorene	ug/L	10	U	10	U	570		10	U	10	U
Naphthalene	ug/L	10	U	10	U	10	U	510		10	U
Phenanthrene	ug/L	10	U	10	U	170		10	U	10	U
Metals											
Chromium (Total)	ug/L	0.05	U	7.7		0.29		101.7		--	
Chromium (Hexavalent)	ug/L	0.1	U	0.1	U	0.1	U	97		--	
Indicator Parameters											
pH	SU	8.4		9.3		8.8		11.4		11.4	
Specific Conductance	umhos	1050		5000		2450		5000		5000	

TABLE B-10
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - SAND UNIT MONITORING WELLS (1991 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-10L 01/12/91 Primary	SC-MW-10L 09/30/92 Primary	SC-MW-11L 01/12/91 Primary	SC-MW-12L 01/12/91 Primary	SC-MW-12L 09/30/92 Primary	SC-MW-13L 01/12/91 Primary	SC-MW-14L 01/12/91 Primary	SC-MW-14L 09/30/92 Primary	SC-MW-14L 01/12/91 Primary	SC-MW-15L 09/30/92 Primary	SC-MW-15L 01/12/91 Primary	SC-MW-15L 09/30/92 Primary	SC-MW-15L 01/12/91 Primary	SC-MW-15L 09/30/92 Primary	SC-MW-16L 02/02/99 Primary	SC-MW-16L 02/02/99 Primary	SC-MW-16L 01/12/91 Primary	SC-MW-17L 02/02/99 Primary	SC-MW-17L 02/02/99 Primary	SC-MW-1L 01/12/91 Primary	SC-MW-2L 01/12/91 Primary							
Volatile Organics																													
1,2-Dichloroethene	ug/L	16	U	25	U	32	U	40	U	100	U	32	U	1.6	U	20	U	160	U	250	U	--	1.6	U	40	U			
Acetone	ug/L	--		310		--		--		100	U	--		--		20	U	--	250	U	--	--	--	--	--				
Benzene	ug/L	108		160		467		337		260		118		131		140		3010		1700		--	4.4	U	190				
Carbon disulfide	ug/L	--		25	U	--		--		100	U	--		--		25		--	250	U	--	--	--	--	--				
Chlorobenzene	ug/L	111		140		1110		743		400		200		134		48		1830		1200		--	6	U	882				
Chloromethane	ug/L	100	U	--		200	U	250	U	--		267		10	U	--		1000	U	--		--	10	U	250	U			
Dichlorodifluoromethane	ug/L	100	U	--		200	U	250	U	--		200	U	10	U	--		1000	U	--		--	10	U	250	U			
Ethylbenzene	ug/L	72	U	73		140	U	240		100		140	U	21.1		55		720	U	250	U	--	7.2	U	180	U			
Methylene chloride	ug/L	38.9	B	28		73.3		70	U	46	J	56	U	2.8	U	27	B	289	U	190	J	--	2.8	U	81.4				
Styrene	ug/L	--		25	U	--		--		92	J	--		--		--		--		--		--	--	--	--				
Tetrachloroethylene	ug/L	41	U	25	U	82	U	100	U	16	J	82	U	74.1		24		410	U	250	U	--	4.1	U	100	U			
Toluene	ug/L	108		150		120	U	1290		770		120	U	115		200		600	U	250	U	--	6	U	150	U			
Trichloroethylene	ug/L	19	U	25	U	173		108		52	J	79		121		71		190	U	250	U	--	1.9	U	48	U			
Vinyl chloride	ug/L	100	U	25	U	200	U	250	U	100	U	200	U	10	U	20	U	1000	U	250	U	--	10	U	250	U			
Xylene (total)	ug/L	--		400		--		--		600		--		--		200		--		250	U	--	--	--	--				
Semivolatile Organics																													
1,2,4-Trichlorobenzene	ug/L	21	U	620	U	6070		1520		5600		3520		14000		26000		81.2		190	J	50	U	17		2.1	U	89.6	
1,2-Dichlorobenzene	ug/L	156		640		6650		5290		12000		771		2780		2100		20600		33000		330		12000		2.58		19600	
1,3-Dichlorobenzene	ug/L	60.4		620	U	1570		1130		2800		239		2650		1900		15200		21000		460		7400		2.1	U	18500	
1,4-Dichlorobenzene	ug/L	110		380	J	2310		2560		5400		497		4610		2700		19500		33000		540		11000		4.8	U	21900	
2,4,5-Trichlorophenol	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
2,4,6-Trichlorophenol	ug/L	30	U	620	U	59	U	150	U	2600	U	32	U	150	U	560	U	3	U	560	U	50	U	10	U	2.9	U	3.3	U
2,4-Dichlorophenol	ug/L	30	U	620	U	59	U	150	U	2600	U	32	U	150	U	560	U	321		350	J	50	U	6	J	2.9	U	99	
2,4-Dimethylphenol	ug/L	25900		31000	J	1180		20900		38000		22800		17500		18000		3	U	560	U	50	U	10	U	2.9	U	3.82	
2,4-Dinitrophenol	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
2,4-Dinitrotoluene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
2,6-Dinitrotoluene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
2-Chloronaphthalene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
2-Chlorophenol	ug/L	36	U	620	U	73	U	180	U	2600	U	39	U	190	U	560	U	63.3		58	J	50	U	25		3.6	U	4	U
2-Methylnaphthalene	ug/L	--		960		--		--		1500	J	--		--		770		--		560	U	50	U	10	U	--		--	
2-Methylphenol	ug/L	--		58000		--		--		38000		--		--		14000		--		560	U	50	U	10	U	--		--	
2-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
2-Nitrophenol	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
3,3-Dichlorobenzidine	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
3-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
4,6-Dinitro-2-methylphenol	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
4-Bromophenylphenyl ether	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
4-Chloroaniline	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
4-Chlorophenyl phenyl ether	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
4-Chloro-3-methylphenol	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
4-Methylphenol	ug/L	--		200000		--		--		140000		--		--		48000		--		560	U	50	U	10	U	--		--	
4-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
4-Nitrophenol	ug/L	--		--		--		--		--		--		--		--		--		250	U	50	U	--		--		--	
Acenaphthene	ug/L	33.7		620	U	42	U	104		2600	U	308		110	U	180		2.1	U	560	U	50	U	10	U	2.1	U	6.43	
Acenaphthylene	ug/L	38	U	620	U	77	U	190	U	2600	U	41	U	200	U	560	U	3.9	U	560	U	50	U	10	U	3.8	U	4.2	U
Anthracene	ug/L	21	U	620	U	42	U	100	U	2600	U	22	U	110	U	560	U	2.1	U	560	U	50	U	10	U	2.1	U	2.3	U
Benzo(a)anthracene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
Benzo(a)pyrene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
Benzo(b)fluoranthene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
Benzo(ghi)perylene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	
Benzo(k)fluoranthene	ug/L	--		--		--		--		--		--		--		--		--		50	U	10	U	--		--		--	

TABLE B-10
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - SAND UNIT MONITORING WELLS (1991 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-10L 01/12/91 Primary	SC-MW-10L 09/30/92 Primary	SC-MW-11L 01/12/91 Primary	SC-MW-12L 01/12/91 Primary	SC-MW-12L 09/30/92 Primary	SC-MW-13L 01/12/91 Primary	SC-MW-14L 01/12/91 Primary	SC-MW-14L 09/30/92 Primary	SC-MW-14L 01/12/91 Primary	SC-MW-15L 09/30/92 Primary	SC-MW-15L 01/12/91 Primary	SC-MW-15L 09/30/92 Primary	SC-MW-16L 02/02/99 Primary	SC-MW-17L 02/02/99 Primary	SC-MW-1L 01/12/91 Primary	SC-MW-2L 01/12/91 Primary												
Semivolatile Organics (Cont'd)																													
Bis(2-chloroethoxy)methane	ug/L	--		--		--		--		--		--		--	50	U	10	U											
Bis(2-chloroethyl)ether	ug/L	--		--		--		--		--		--		50	U	10	U												
Bis(2-chloromethyl)ether	ug/L	100	U	--		200	U	250	U	--		200	U	10	U	--		1000	U	--		50	U	10	U	10	U	250	U
Bis(2-ethylhexyl)phthalate	ug/L	110	U	620	U	220	U	540	U	2600	U	120	U	560	U	560	U	11	U	560	U	50	U	10	U	11	U	12	U
Butyl benzyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Carbazole	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Chrysene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Dibenzo(a,h)anthracene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Dibenzofuran	ug/L	--		620	U	--		--		2600	U	--		--	J		560	U	50	U	10	U	--		--		--		
Diethyl phthalate	ug/L	--		--		--		--		--		--		--		--		50	U	10	U	--		--		--			
Dimethyl phthalate	ug/L	--		--		--		--		--		--		--		--		50	U	10	U	--		--		--			
Di-n-butyl phthalate	ug/L	--		--		--		--		--		--		--		--		50	U	10	U	--		--		--			
Di-n-octyl phthalate	ug/L	--		--		--		--		--		--		--		--		50	U	10	U	--		--		--			
Fluoranthene	ug/L	24	U	620	U	48	U	120	U	2600	U	26	U	120	U	560	U	2.4	U	560	U	50	U	10	U	2.4	U	2.7	U
Fluorene	ug/L	21	U	620	U	42	U	100	U	2600	U	22	U	110	U	32	J	2.1	U	560	U	50	U	10	U	2.1	U	5.51	
Hexachlorobenzene	ug/L	21	U	620	U	42	U	100	U	2600	U	22	U	110	U	560	U	2.1	U	560	U	50	U	10	U	2.1	U	2.3	U
Hexachlorobutadiene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Hexachlorocyclopentadiene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Hexachloroethane	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Indeno(1,2,3-cd)pyrene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Isophorone	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Naphthalene	ug/L	4990		2400		7150		11700		19000		16400		5020		6400		20.4		560	U	6	J	12		1.7	U	111	
Nitrobenzene	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
N-Nitrosodiphenylamine	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
N-Nitrosodipropylamine	ug/L	--		--		--		--		--		--		--		--		--		--		50	U	10	U	--		--	
Phenanthrene	ug/L	59	U	620	U	120	U	290	U	2600	U	64	U	300	U	560	U	6	U	560	U	50	U	10	U	5.9	U	6.5	U
Phenol	ug/L	16	U	230000		19100		42600		91000		210000		33500		31000		783		280	J	50	U	10	U	1.6	U	73.5	
Pyrene	ug/L	21	U	620	U	42	U	100	U	2600	U	22	U	110	U	560	U	2.1	U	560	U	50	U	10	U	2.1	U	2.3	U
Metals																													
Antimony	ug/L	60	U	--		60	U	60	U	--		190		60	U	--		60	U	--		--		--		60	U	60	U
Arsenic	ug/L	50	U	--		66		50	U	--		100	U	50	U	--		10	U	--		--		--		50	U	47	
Beryllium	ug/L	17		--		3		2.8		--		33		5.4		--		1	U	--		--		--		1.4		1	U
Cadmium	ug/L	4	U	--		13		10		--		170		21		--		10		--		--		--		2	U	2	U
Chromium (Total)	ug/L	4900		1290		1160		170		118		67300		900		272		23		18.1		--		--		1870		39	
Chromium (Hexavalent)	ug/L	50	U	--		10	U	10	U	--		50	U	10	U	--		10	U	--		--		--		50	U	50	U
Copper	ug/L	51		--		37		19		--		350		58		--		21		--		--		--		26		15	
Cyanide	ug/L	67		--		55		70		--		25	U	73		--		25	U	--		--		--		34		25	U
Lead	ug/L	140		3.79		340		75	U	8.52		350		110		21.2		820		848		--		--		75	U	75	U
Mercury	ug/L	0.2	U	--		0.41		0.23		--		0.2	U	0.23		--		0.2	U	--		--		--		0.2	U	0.2	U
Nickel	ug/L	930		--		460		300		--		2950		510		--		20	U	--		--		--		27		20	U
Selenium	ug/L	25	U	--		5	U	50	U	--		25	U	5	U	--		25	U	--		--		--		25	U	5	U
Silver	ug/L	10	U	--		10	U	10	U	--		10	U	10	U	--		10	U	--		--		--		10	U	10	U
Thallium	ug/L	10	U	--		10	U	10	U	--		10	U	10	U	--		10	U	--		--		--		10	U	10	U
Zinc	ug/L	1300		--		540		310		--		2530		490		--		54		--		--		--		37		20	U

TABLE B-10
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - SAND UNIT MONITORING WELLS (1991 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-2L 09/30/92 Primary		SC-MW-3L 01/12/91 Primary		SC-MW-3L 09/30/92 Primary		SC-MW-4L 01/12/91 Primary		SC-MW-4L 09/30/92 Primary		SC-MW-5L 01/12/91 Primary		SC-MW-5L 09/30/92 Primary		SC-MW-6L 01/12/91 Primary		SC-MW-7L 01/12/91 Primary		SC-MW-8L 01/12/91 Primary		SC-MW-8L 09/30/92 Primary		SC-MW-9L 01/12/91 Primary		SC-MW-9L 09/30/92 Primary	
Volatile Organics																											
1,2-Dichloroethene	ug/L	50	U	1.6	U	100	U	160	U	250	U	40	U	50	U	16	U	40	U	244		190	J	3.2	U	82	J
Acetone	ug/L	50	U	--		100	U	--		250	U	--		50	U	--		--		--		500	U	--		500	
Benzene	ug/L	55		4.4	U	56	J	519		250	J	110	U	23	J	534		501		388		430	J	31.1		85	J
Carbon disulfide	ug/L	50	U	--		100	U	--		250	U	--		50	U	--		--		--		500	U	--		50	J
Chlorobenzene	ug/L	380		65.1		1100		1230		300		414		310		60	U	150	U	3060		5200		12	U	50	J
Chloromethane	ug/L	--		10	U	--		1000	U	--		250	U	--		100	U	250	U	500	U	--		20	U	--	
Dichlorodifluoromethane	ug/L	--		10.6		--		1000	U	--		250	U	--		100	U	250	U	500	U	--		20	U	--	
Ethylbenzene	ug/L	50	U	7.2	U	100	U	720	U	52	J	180	U	--	U	309		243		360	U	500	U	14	U	50	J
Methylene chloride	ug/L	25	J	2.8	U	65	J	415		180	J	70	U	56	B	38.8	B	79.8		223	B	420	J	5.6	U	32	J
Styrene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Tetrachloroethylene	ug/L	50	U	4.1	U	100	U	410	U	250	U	100	U	50	U	41	U	100	U	1590		2000		8.2	U	40	J
Toluene	ug/L	6	J	6	U	23	J	600	U	210	J	150	U	50	U	912		1190		300	U	500	U	14.6		50	U
Trichloroethylene	ug/L	50	U	1.9	U	100	U	190	U	40	J	48	U	50	U	19	U	48	U	5270		5600		3.8	U	50	U
Vinyl chloride	ug/L	50	U	10	U	100	U	1000	U	250	U	250	U	50	U	100	U	250	U	669		350	J	20	U	50	U
Xylene (total)	ug/L	50	U	--		100	U	--		95	J	--		50	U	--		--		--		120	J	--		47	J
Semivolatile Organics																											
1,2,4-Trichlorobenzene	ug/L	140	J	127		62	J	107		120	J	21	U	62	U	10	U	22	U	14400		12000		110	U	5600	U
1,2-Dichlorobenzene	ug/L	13000		30300		11000		28100		9600		9650		5100		10	U	1570		13800		16000		110	U	5600	U
1,3-Dichlorobenzene	ug/L	9800		24600		7500		26900		8000		6030		3000		10	U	152		12500		15000		110	U	5600	U
1,4-Dichlorobenzene	ug/L	14000		29500		11000		29200		11000		10400		4900		24	U	279		12300		18000		250	U	5600	U
2,4,5-Trichlorophenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4,6-Trichlorophenol	ug/L	560	U	3.2	U	530	U	16	U	530	U	29	U	62	U	15	U	31	U	66	U	670	U	160	U	5600	U
2,4-Dichlorophenol	ug/L	180	J	145		120	J	77.3		530	U	142		190		15	U	31	U	66	U	670	U	160	U	5600	U
2,4-Dimethylphenol	ug/L	560	U	3.2	U	530	U	5400		3200		29	U	62	U	28500		83200		581		920		7930		6800	
2,4-Dinitrophenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4-Dinitrotoluene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2,6-Dinitrotoluene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Chloronaphthalene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Chlorophenol	ug/L	58	J	3.9	U	530	U	20	U	530	U	36	U	25	J	18	U	38	U	80	U	670	U	190	U	5600	U
2-Methylnaphthalene	ug/L	560	U	--		530	U	--		530	U	--		62	U	--		--		--		150	J	--		5600	U
2-Methylphenol	ug/L	670		--		530	U	--		570		--		62	U	--		--		--		450	J	--		18000	
2-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Nitrophenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
3,3-Dichlorobenzidine	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
3-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4,6-Dinitro-2-methylphenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Bromophenylphenyl ether	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chloroaniline	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chlorophenyl phenyl ether	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chloro-3-methylphenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Methylphenol	ug/L	560	U	--		530	U	--		710		--		62	U	--		--		--		1700		--		170000	
4-Nitroaniline	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Nitrophenol	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Acenaphthene	ug/L	560	U	2.2	U	530	U	11	U	530	U	21	U	62	U	264		548		46	U	670	U	2910		5600	U
Acenaphthylene	ug/L	560	U	4.1	U	530	U	21	U	530	U	38	U	62	U	52.9		96.3		85	U	670	U	200	U	5600	U
Anthracene	ug/L	560	U	2.2	U	530	U	11	U	530	U	21	U	62	U	23.4		69.3		46	U	670	U	110	U	5600	U
Benzo(a)anthracene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzo(a)pyrene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzo(b)fluoranthene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzo(ghi)perylene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzo(k)fluoranthene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--	

TABLE B-10
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - SAND UNIT MONITORING WELLS (1991 - 1999)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-MW-2L 09/30/92 Primary		SC-MW-3L 01/12/91 Primary		SC-MW-3L 09/30/92 Primary		SC-MW-4L 01/12/91 Primary		SC-MW-4L 09/30/92 Primary		SC-MW-5L 01/12/91 Primary		SC-MW-5L 09/30/92 Primary		SC-MW-6L 01/12/91 Primary		SC-MW-7L 01/12/91 Primary		SC-MW-8L 01/12/91 Primary		SC-MW-8L 09/30/92 Primary		SC-MW-9L 01/12/91 Primary		SC-MW-9L 09/30/92 Primary		
Semivolatile Organics (Cont'd)																												
Bis(2-chloroethoxy)methane	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Bis(2-chloroethyl)ether	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Bis(2-chloromethyl)ether	ug/L	--		10	U	--		1000	U	--		250	U	--		100	U	250	U	500	U	--		20	U	--		
Bis(2-ethylhexyl)phthalate	ug/L	560	U	12	U	530	U	60	U	530	U	110	U	62	U	11100		110	U	240	U	670	U	570	U	5600	U	
Butyl benzyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Carbazole	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Chrysene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Dibenzo(a,h)anthracene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Dibenzofuran	ug/L	560	U	--		530	U	--		530	U	--		62	U	--		--		--		670	U	--		5600	U	
Diethyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Dimethyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Di-n-butyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Di-n-octyl phthalate	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Fluoranthene	ug/L	560	U	2.6	U	530	U	13	U	530	U	24	U	62	U	12	U	29.7		54	U	670	U	130	U	5600	U	
Fluorene	ug/L	560	U	2.2	U	530	U	11	U	530	U	21	U	62	U	136		303		46	U	670	U	110	U	5600	U	
Hexachlorobenzene	ug/L	560	U	2.2	U	530	U	11	U	530	U	21	U	62	U	10	U	22	U	46	U	670	U	110	U	5600	U	
Hexachlorobutadiene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Hexachlorocyclopentadiene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Hexachloroethane	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Indeno(1,2,3-cd)pyrene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Isophorone	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Naphthalene	ug/L	560	U	55.8		530	U	70.8		68	J	19.6		62	U	12700		23700		4970		7200		58200		5600	U	
Nitrobenzene	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
N-Nitrosodiphenylamine	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
N-Nitrosodipropylamine	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		
Phenanthrene	ug/L	560	U	6.4	U	530	U	32	U	530	U	59	U	62	U	68.8		216		130	U	670	U	310	U	5600	U	
Phenol	ug/L	560	U	1.8	U	530	U	1320		150	J	16	U	31	J	888		53700		3600		2100		68700		360000		
Pyrene	ug/L	560	U	2.2	U	530	U	11	U	530	U	21	U	62	U	10	U	22	U	46	U	670	U	110	U	5600	U	
Metals																												
Antimony	ug/L	--		60	U	--		60	U	--		60	U	--		60	U	60	U	60	U	--		60	U	--		
Arsenic	ug/L	--		130		--		20		--		100		--		42		50	U	20	U	--		250	U	--		
Beryllium	ug/L	--		1	U	--		2.2		--		2.9		--		1	U	2.8		2.1		--		145		--		
Cadmium	ug/L	--		2	U	--		2	U	--		2.3		--		2	U	2	U	2	U	--		10	U	--		
Chromium (Total)	ug/L	7.74		14		27.8		1400		1210		1890		5100		180		870		710		1440		15800		9560		
Chromium (Hexavalent)	ug/L	--		50	U	--		50	U	--		10	U	--		10	U	500	U	50	U	--		500	U	--		
Copper	ug/L	--		11		--		15		--		46		--		14		18		64		--		570		--		
Cyanide	ug/L	--		35		--		25	U	--		80		--		58		92		37		--		28		--		
Lead	ug/L	22.6		75	U	6.62		75	U	1.78		75	U	1	U	75	U	75	U	7	U	41.6		610		1	U	
Mercury	ug/L	--		0.2	U	--		0.2	U	--		0.2	U	--		0.2	U	0.2	U	0.2	U	--		0.2	U	--		
Nickel	ug/L	--		20	U	--		45		--		23		--		23		67		26		--		6740		--		
Selenium	ug/L	--		5	U	--		10	U	--		25	U	--		5	U	5	U	5	U	--		25	U	--		
Silver	ug/L	--		10	U	--		10	U	--		10	U	--		10	U	10	U	10	U	--		10	U	--		
Thallium	ug/L	--		10	U	--		10	U	--		10	U	--		10	U	10	U	10	U	--		10	U	--		
Zinc	ug/L	--		20	U	--		50		--		68		--		74		39		46		--		11900		--		

TABLE B-11
HISTORICAL ANALYTICAL RESULTS
GROUNDWATER - SAND UNIT PIEZOMETERS (1983)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-PZ-1D 08/01/83 Primary		SC-PZ-2D 08/01/83 Primary		SC-PZ-3D 08/01/83 Primary		SC-PZ-4D 01/01/83 Primary		SC-PZ-5D 08/01/83 Primary	
Volatile Organics											
1,1,2-Trichloroethane	ug/L	10	U	5	U	10	U	30		5	U
1,1-Dichloroethene	ug/L	10	U	5	U	10	U	20		5	U
1,2-Dichloroethene	ug/L	10	U	30		10	U	10	U	5	U
Benzene	ug/L	125		1000		670		220		50	
Chlorobenzene	ug/L	1850		660		10	U	13900		5	U
Ethylbenzene	ug/L	10	U	300		310		10	U	5	U
Tetrachloroethylene	ug/L	10	U	5	U	10	U	5350		5	U
Toluene	ug/L	10	U	435		640		10	U	5	U
Trichloroethylene	ug/L	10	U	20		10	U	13960		5	U
Xylene (total)	ug/L	10	U	745		1550		10	U	5	U
Semivolatile Organics											
1,2,4-Trichlorobenzene	ug/L	10		10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	ug/L	1500		2700		10	U	4900		10	U
1,2-Diphenylhydrazine	ug/L	10	U	10	U	10	U	10	U	37	
1,3-Dichlorobenzene	ug/L	1300		1400		10	U	10	U	10	U
1,4-Dichlorobenzene	ug/L	4100		3700		10	U	10	U	10	U
Acenaphthene	ug/L	10	U	10	U	28		10	U	10	U
Anthracene	ug/L	10	U	10	U	64		10	U	120	
Bis(2-ethylhexyl)phthalate	ug/L	10	U	10	U	10	U	31		10	U
Dimethyl phthalate	ug/L	10	U	10	U	10	U	10	U	10	U
Di-n-butyl phthalate	ug/L	10		19		10	U	32		10	U
Fluoranthene	ug/L	10	U	10	U	10	U	10	U	10	U
Fluorene	ug/L	10	U	10	U	10	U	10	U	10	U
Naphthalene	ug/L	10		10	U	53		10	U	10	U
Phenanthrene	ug/L	10	U	10	U	10	U	10	U	10	U
Metals											
Chromium (Total)	ug/L	0.05	U	0.3		0.06		0.44		44.3	
Chromium (Hexavalent)	ug/L	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Indicator Parameters											
pH	SU	6.3		5.6		5.3		4.8		2	
Specific Conductance	umhos	2150		5000		2400		5000		5000	

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SSW-1 01/01/91 Primary	SSW-2 01/01/91 Primary	SSW-3 01/01/91 Primary	SSW-4 01/01/91 Primary	SSW-5 01/01/91 Primary	SSW-6 01/01/91 Primary	SC-SW-05 01/02/02 Primary	SC-SW-06 01/02/02 Primary	SC-SW-07 01/02/02 Primary	SC-SW-08 01/02/02 Primary	SC-SW-09 01/03/02 Primary	SC-SW-10 01/03/02 Primary	SC-SW-11 01/03/02 Primary	SC-SW-12 01/03/02 Primary	SC-SW-13 01/03/02 Primary	SC-SW-14 01/03/02 Primary
<i>Volatile Organics</i>																	
1,1,1-Trichloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,1,2,2-Tetrachloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,1,2-Trichloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,1-Dichloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,1-Dichloroethene	ug/L	--		--		--		ND		ND		ND		ND		ND	
1-Methylethyl-benzene	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,2-Dibromoethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,2-Dichloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
1,2-Dichloroethene	ug/L	8	U	1.6	U	8	U	21		21	U	10	U	ND		ND	
1,2-Dichloropropane	ug/L	--		--		--		ND		ND		ND		ND		ND	
2-Butanone	ug/L	--		--		--		ND		5	J	3	J	3	J	2	J
2-Hexanone	ug/L	--		--		--		ND		ND		ND		ND		ND	
4-Methyl-2-pentanone	ug/L	--		--		--		ND		ND		ND		ND		ND	
Acetone	ug/L	--		--		--		3	J	27	J	ND		16	J	9	J
Benzene	ug/L	22	U	9.7		22	U	39.8		39.8		10	U	ND		8	J
Bromodichloromethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Bromoform	ug/L	--		--		--		ND		ND		ND		ND		ND	
Bromomethane	ug/L	--		--		--		ND		ND		ND		ND		2	J
Carbon disulfide	ug/L	--		--		--		5	J	ND		ND		ND		ND	
Carbon tetrachloride	ug/L	--		--		--		ND	U	ND		ND		ND		ND	
Chlorobenzene	ug/L	414		86		332		329		329		10	U	ND		51	J
Chloroethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Chloroform	ug/L	--		--		--		ND		ND		ND		ND		ND	
Chloromethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
cis-1,2-Dichloroethene	ug/L	--		--		--		ND		ND		ND		ND		ND	
cis-1,3-Dichloropropene	ug/L	--		--		--		ND		ND		ND		ND		ND	
Cyclohexane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Dibromochloropropane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Dibromochloromethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Dichlorodifluoromethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Ethylbenzene	ug/L	36	U	7.2	U	36	U	36	U	36	U	10	U	ND		3	J
Methyl Acetate	ug/L	--		--		--		ND		ND		ND		ND		ND	
Methylcyclohexane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Methylene chloride	ug/L	14	U	2.8	U	14	U	14	U	14	U	3	J	ND		ND	
Methyltert-butylether	ug/L	--		--		--		ND		ND		ND		ND		ND	
Styrene	ug/L	--		--		--		ND		ND		ND		ND		ND	
Tetrachloroethylene	ug/L	--		--		--		ND		ND		ND		ND		ND	
Toluene	ug/L	30	U	6.2		30	U	30	U	30	U	10	U	ND		2	J
trans-1,3-Dichloropropene	ug/L	--		--		--		ND		ND		ND		ND		ND	
Trichloroethylene	ug/L	9.5	U	1.9	U	9.5	U	9.5	U	9.5	U	10	U	--		--	
Trichlorofluoromethane	ug/L	--		--		--		ND		ND		ND		ND		ND	
Vinyl chloride	ug/L	--		--		--		ND		ND		ND		ND		ND	
Xylene (total)	ug/L	--		--		--		10	U	ND		11	J	14	J	6	J
<i>Semivolatile Organics</i>																	
1,1'-Biphenyl	ug/L	--		--		--		--		--		--		--		--	
1,2,4-Trichlorobenzene	ug/L	2	U	78.5		49.3		51		30.2	J	34	J	2	J	16	
1,2-Dichlorobenzene	ug/L	171		224		542		2740		321		170		ND		90	
1,3-Dichlorobenzene	ug/L	269		85.5		432		2920		278		82		ND		52	
1,4-Dichlorobenzene	ug/L	369		192		517		4680		385		240		ND		79	
2,4,5-Trichlorophenol	ug/L	--		--		--		--		--		--		ND		ND	
2,4,6-Trichlorophenol	ug/L	--		--		--		--		--		--		ND		3	J
2,4-Dichlorophenol	ug/L	2.8	U	2.8	U	3	U	19.8		3.1	U	57	U	ND		ND	
2,4-Dimethylphenol	ug/L	17.6		60.4		3	U	2.9	U	3.1	U	1000		ND		ND	
2,4-Dinitrophenol	ug/L	--		--		--		--		--		--		ND		ND	
2,4-Dinitrotoluene	ug/L	--		--		--		--		--		--		ND		ND	

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SSW-1 01/01/91 Primary	SSW-2 01/01/91 Primary	SSW-3 01/01/91 Primary	SSW-4 01/01/91 Primary	SSW-5 01/01/91 Primary	SSW-6 01/01/91 Primary	SC-SW-05 01/02/02 Primary	SC-SW-06 01/02/02 Primary	SC-SW-07 01/02/02 Primary	SC-SW-08 01/02/02 Primary	SC-SW-09 01/03/02 Primary	SC-SW-10 01/03/02 Primary	SC-SW-11 01/03/02 Primary	SC-SW-12 01/03/02 Primary	SC-SW-13 01/03/02 Primary	SC-SW-14 01/03/02 Primary
2,6-Dinitrotoluene	ug/L	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ug/L	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ug/L	3.9		3.5	U	3.8		3.5	U	3.8	U	57	U	ND	ND	ND	ND
2-Methylnaphthalene	ug/L	--	--	--	--	--	--	41	J	ND	44	40	24	15	ND	ND	80
2-Methylphenol	ug/L	--	--	--	--	--	--	340		ND	17	39	24	6.6	ND	ND	8.5
2-Nitroaniline	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenylphenyl ether	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ug/L	--	--	--	--	--	--	-		ND	45	37	29	17	ND	1	J
4-Nitroaniline	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ug/L	--	--	--	--	--	--	-		ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ug/L	2	U	12.3		2.1	U	2	U	2.2	U	93		ND	13	38	30
Acenaphthylene	ug/L	3.6	U	3.7	U	3.8	U	3.7	U	4	U	57	U	ND	ND	1	J
Anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Azobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzo(a)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzo(a)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzo(b)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzo(ghi)perylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzo(k)fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Benzyl alcohol	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Bis(2-chloroethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	1	J
Bis(chloromethyl)ether	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Chrysene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Dibenzofuran	ug/L	--	--	--	--	--	--	52	J	ND	5.9	18	10	3	J	ND	15
Diethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Dimethyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Di-n-butyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Fluoranthene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Fluorene	ug/L	2	U	2.8		2.1		2	U	2.2	U	26	J	ND	ND	9	4.9
Hexachlorobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Hexachlorobutadiene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Hexachloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Isophorone	ug/L	2.3	U	2.3	U	2.4	U	2.3	U	5.2		57	U	ND	ND	ND	ND
Naphthalene	ug/L	9.14		260		16.4		3.97		7.07		81		ND	77	270	100
Nitrobenzene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
N-Nitrosodipropylamine	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Pentachlorophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND
Phenanthrene	ug/L	5.6	U	5.7	U	5.9	U	5.7	U	6.1	U	9	J	ND	3	J	7.8
Phenol	ug/L	29		241		1.6	U	1.6	U	1.7	U	8	J	ND	15		ND
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	1	J
Metals																	
Aluminum	ug/L	--	--	--	--	--	--	--	--	--	--	8400	760	ND	ND	ND	ND

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SSW-1 01/01/91 Primary		SSW-2 01/01/91 Primary		SSW-3 01/01/91 Primary		SSW-4 01/01/91 Primary		SSW-5 01/01/91 Primary		SSW-6 01/01/91 Primary		SC-SW-05 01/02/02 Primary		SC-SW-06 01/02/02 Primary		SC-SW-07 01/02/02 Primary		SC-SW-08 01/02/02 Primary		SC-SW-09 01/03/02 Primary		SC-SW-10 01/03/02 Primary		SC-SW-11 01/03/02 Primary		SC-SW-12 01/03/02 Primary		SC-SW-13 01/03/02 Primary		SC-SW-14 01/03/02 Primary	
Antimony	ug/L	60	U	60	U	60	U	60	U	60	U	24000	U	ND		ND		ND		ND		ND		ND		17		ND		ND			
Arsenic	ug/L	10	U	10	U	10	U	10		10	U	5000	U	ND		ND		ND		ND		ND		ND		ND		ND		ND			
Barium	ug/L	--		--		--		--		--		--		260		620		98		69		160		46		140		250		50		18	
Beryllium	ug/L	1	U	1	U	1	U	2		1	U	200	U	ND		ND		ND		ND		ND		ND		ND		ND		ND			
Cadmium	ug/L	2	U	2	U	2		17		3		3000	U	ND		ND		ND		ND		ND		ND		ND		ND		ND			
Calcium	ug/L	--		--		--		--		--		--		290		810		92		50		89		35		150		390		31		21	
Chromium (Dissolved)	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--			
Chromium (Total)	ug/L	6290		320		480		8640		160		1240000		1300		1900		1400		1100		710		230		450		3300		250		150	
Chromium (Hexavalent, dissolved)	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--			
Chromium (Hexavalent)	ug/L	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--			
Cobalt	ug/L	--		--		--		--		--		--		11		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Copper	ug/L	23		10	U	10	U	200		10	U	173000		21		11		ND		ND		ND		ND		ND		ND		ND		ND	
Cyanide	ug/L	25	U	25	U	25	U	25	U	25	U	1000	U	--		--		--		--		--		--		--		--		--			
Iron	ug/L	--		--		--		--		--		--		39000		980		240		200		580		870		2200		1200		1700		880	
Lead	ug/L	75	U	75	U	75	U	1000		75	U	136000		65		25		ND	U	26		200		80		330		210		420		76	
Magnesium	ug/L	--		--		--		--		--		--		500		12		11		6		6.4		8.3		11		7.1		12		10	
Manganese	ug/L	--		--		--		--		--		--		1300		60		11		13		42		81		220		200		72		56	
Mercury	ug/L	ND	U	ND	U	ND	U	ND	U	ND	U	19400		0.31		0.62		0.086		0.49		8.3		ND		ND		ND		0.11		ND	
Nickel	ug/L	20	U	20	U	20	U	350		37		982000		39		14		8.2		8.6		7		5.1		7		ND		7.3		ND	
Potassium	ug/L	--		--		--		--		--		--		150		8.2		16		13		6.3		6.1		6.2		4.3		6.9		6.5	
Selenium	ug/L	5	U	5	U	5	U	5		5	U	2000	U	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Silver	ug/L	13		10	U	10	U	10	U	10	U	2000	U	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Sodium	ug/L	--		--		--		--		--		--		3900		110		220		180		57		51		50		69		53		47	
Thallium	ug/L	10	U	10	U	10	U	10	U	10	U	2000	U	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vanadium	ug/L	--		--		--		--		--		--		74		33		120		81		ND		ND		10		ND		12		ND	
Zinc	ug/L	360		230		58		1600		580		487000		220		40		ND		9.6		ND		8.6		40		22		29		ND	
PCBs																																	
Aroclor 1016	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1221	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1232	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1242	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1248	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1254	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aroclor 1260	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Pesticides																																	
4,4'-DDD	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDE	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4,4'-DDT	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Aldrin	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
alpha-BHC	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
alpha-Chlordane	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
beta-BHC	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chlordane	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
delta-BHC	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Dieldrin	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endosulfan I	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endosulfan II	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endosulfan sulfate	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endrin	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endrin aldehyde	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Endrin ketone	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
gamma-Chlordane	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Heptachlor epoxide	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Lindane	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methoxychlor	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Toxaphene	ug/L	--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SW-15 01/03/02 Primary	SC-SW-16 01/03/02 Primary	SC-SW-17 01/03/02 Primary	SC-SW-18 01/03/02 Primary	SC-SW-19 01/03/02 Primary	SC-SW-20 01/03/02 Primary	SC-SW-21 01/03/02 Primary							
Volatile Organics															
1,1,1-Trichloroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,1,2,2-Tetrachloroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,1,2-Trichloroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,1-Dichloroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,1-Dichloroethene	ug/L	ND		ND		ND		ND		ND		ND			
1-Methylethyl-benzene	ug/L	ND		ND		ND		ND		ND		ND			
1,2-Dibromoethane	ug/L	ND		ND		ND		ND		ND		ND			
1,2-Dichloroethane	ug/L	ND		ND		ND		ND		ND		ND			
1,2-Dichloroethene	ug/L	ND		ND		ND		ND		ND		ND			
1,2-Dichloropropane	ug/L	ND		ND		ND		ND		ND		ND			
2-Butanone	ug/L	ND		ND		ND		ND		2	J	ND			
2-Hexanone	ug/L	ND		ND		ND		ND		ND		ND			
4-Methyl-2-pentanone	ug/L	ND		ND		ND		ND		ND		ND			
Acetone	ug/L	5	J	6	J	4	J	5	J	5	J	11	J	3	J
Benzene	ug/L	ND		ND		ND		15		29		23			
Bromodichloromethane	ug/L	ND		ND		ND		ND		ND		ND			
Bromoform	ug/L	ND		ND		ND		ND		ND		ND			
Bromomethane	ug/L	ND		ND		ND		ND		ND		ND			
Carbon disulfide	ug/L	ND		ND		ND		ND		3	J	37			
Carbon tetrachloride	ug/L	ND		ND		ND		ND		ND		ND			
Chlorobenzene	ug/L	ND		ND		9	J	250	J	600		760			
Chloroethane	ug/L	ND		ND		ND		ND		ND		ND			
Chloroform	ug/L	ND		ND		ND		ND		ND		ND			
Chloromethane	ug/L	ND		ND		ND		ND		ND		ND			
cis-1,2-Dichloroethene	ug/L	ND		ND		ND		ND		ND		ND			
cis-1,3-Dichloropropene	ug/L	ND		ND		ND		ND		ND		ND			
Cyclohexane	ug/L	ND		ND		ND		ND		ND		ND			
Dibromochloropropane	ug/L	ND		ND		ND		ND		ND		ND			
Dibromochloromethane	ug/L	ND		ND		ND		ND		ND		ND			
Dichlorodifluoromethane	ug/L	ND		ND		ND		ND		3	J	ND			
Ethylbenzene	ug/L	ND		ND		ND		ND		2	J	ND			
Methyl Acetate	ug/L	ND		ND		ND		ND		ND		ND			
Methylcyclohexane	ug/L	ND		ND		ND		ND		ND		ND			
Methylene chloride	ug/L	ND		ND		ND		ND		ND		ND			
Methyltert-butylether	ug/L	ND		ND		ND		ND		ND		ND			
Styrene	ug/L	ND		ND		ND		ND		ND		ND			
Tetrachloroethylene	ug/L	ND		ND		ND		ND		ND		ND			
Toluene	ug/L	ND		ND		ND		ND		ND		ND			
trans-1,3-Dichloropropene	ug/L	ND		ND		ND		ND		ND		ND			
Trichloroethylene	ug/L	--		--		--		--		--		--			
Trichlorofluoromethane	ug/L	ND		ND		ND		ND		ND		ND			
Vinyl chloride	ug/L	ND		ND		ND		ND		ND		ND			
Xylene (total)	ug/L	ND		ND		ND		ND		7	J	ND			
Semivolatile Organics															
1,1'-Biphenyl	ug/L	--		--		--		--		--		--			
1,2,4-Trichlorobenzene	ug/L	ND		ND		ND		2	J	4	J	45		200	
1,2-Dichlorobenzene	ug/L	ND		ND		ND		35		450		190			
1,3-Dichlorobenzene	ug/L	3	J	4	J	13		30		85		390		430	
1,4-Dichlorobenzene	ug/L	3	J	4.2		3	J	11		46		420		610	
2,4,5-Trichlorophenol	ug/L	ND		ND		ND		ND		ND		ND		ND	
2,4,6-Trichlorophenol	ug/L	ND		ND		ND		ND		ND		ND		ND	
2,4-Dichlorophenol	ug/L	ND		ND		ND		ND	J	4		5.7		34	
2,4-Dimethylphenol	ug/L	ND		ND		ND		ND		ND		ND		ND	U
2,4-Dinitrophenol	ug/L	ND		ND		ND		ND		ND		ND		ND	U
2,4-Dinitrotoluene	ug/L	ND		ND		ND		ND		ND		ND		ND	U

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SW-15 01/03/02 Primary	SC-SW-16 01/03/02 Primary	SC-SW-17 01/03/02 Primary	SC-SW-18 01/03/02 Primary	SC-SW-19 01/03/02 Primary	SC-SW-20 01/03/02 Primary	SC-SW-21 01/03/02 Primary	
2,6-Dinitrotoluene	ug/L	ND	ND	ND	ND	ND	ND	ND	U
2-Chloronaphthalene	ug/L	ND	ND	ND	ND	ND	ND	ND	U
2-Chlorophenol	ug/L	ND	ND	ND	ND	1	J	4.4	J
2-Methylnaphthalene	ug/L	ND	ND	ND	ND	ND	2	J	ND
2-Methylphenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
2-Nitroaniline	ug/L	ND	ND	ND	ND	ND	ND	ND	
2-Nitrophenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
3-Nitroaniline	ug/L	ND	ND	ND	ND	ND	ND	ND	
4,6-Dinitro-2-methylphenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Bromophenylphenyl ether	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Chloroaniline	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Chlorophenyl phenyl ether	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Chloro-3-methylphenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Methylphenol	ug/L	ND	ND	ND	ND	ND	4	J	3
4-Nitroaniline	ug/L	ND	ND	ND	ND	ND	ND	ND	
4-Nitrophenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
Acenaphthene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Acenaphthylene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Anthracene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Azobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzo(a)anthracene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzo(a)pyrene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzo(b)fluoranthene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzo(ghi)perylene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzo(k)fluoranthene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Benzyl alcohol	ug/L	ND	ND	ND	ND	ND	ND	ND	
Bis(2-chloroethoxy)methane	ug/L	ND	ND	ND	ND	ND	ND	ND	
Bis(2-chloroethyl)ether	ug/L	ND	ND	ND	ND	ND	ND	ND	
Bis(2-chloroisopropyl)ether	ug/L	ND	ND	ND	ND	ND	ND	ND	
Bis(2-ethylhexyl)phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Bis(chloromethyl)ether	ug/L	--	--	--	--	--	--	--	
Butyl benzyl phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Chrysene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Dibenzo(a,h)anthracene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Dibenzofuran	ug/L	ND	ND	ND	ND	ND	ND	ND	
Diethyl phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Dimethyl phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Di-n-butyl phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Di-n-octyl phthalate	ug/L	ND	ND	ND	ND	ND	ND	ND	
Fluoranthene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Fluorene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Hexachlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Hexachlorobutadiene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Hexachlorocyclopentadiene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Hexachloroethane	ug/L	ND	ND	ND	ND	ND	ND	ND	
Indeno(1,2,3-cd)pyrene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Isophorone	ug/L	ND	ND	ND	ND	ND	ND	ND	
Naphthalene	ug/L	ND	ND	ND	ND	3	J	23	5.6
Nitrobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	
N-Nitrosodiphenylamine	ug/L	ND	ND	ND	ND	ND	ND	ND	
N-Nitrosodipropylamine	ug/L	ND	ND	ND	ND	ND	ND	ND	
Pentachlorophenol	ug/L	ND	ND	ND	ND	ND	ND	ND	
Phenanthrene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Phenol	ug/L	ND	ND	ND	ND	1	J	5.5	4.5
Pyrene	ug/L	ND	ND	ND	ND	ND	ND	ND	
Metals									
Aluminum	ug/L	330	2500	ND	ND	ND	U	690	1900

TABLE B-12
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SW-15 01/03/02 Primary	SC-SW-16 01/03/02 Primary	SC-SW-17 01/03/02 Primary	SC-SW-18 01/03/02 Primary	SC-SW-19 01/03/02 Primary	SC-SW-20 01/03/02 Primary	SC-SW-21 01/03/02 Primary	
Antimony	ug/L	ND	59	ND	ND	ND	U	ND	16
Arsenic	ug/L	ND	ND	ND	ND	ND	U	ND	16
Barium	ug/L	68	550	83	70	70		91	200
Beryllium	ug/L	ND	ND	ND	ND	ND	U	ND	ND
Cadmium	ug/L	ND	ND	ND	ND	ND	U	ND	ND
Calcium	ug/L	25	63	34	35	46		110	92
Chromium (Dissolved)	ug/L	--	--	--	--	--		--	--
Chromium (Total)	ug/L	240	810	270	260	250		720	350
Chromium (Hexavalent, dissolved)	ug/L	--	--	--	--	--		--	--
Chromium (Hexavalent)	ug/L	--	--	--	--	--		--	--
Cobalt	ug/L	ND	ND	ND	ND	ND		ND	ND
Copper	ug/L	10	56	ND	ND	ND		ND	48
Cyanide	ug/L	--	--	--	--	--		--	--
Iron	ug/L	3000	29000	1100	430	1400		4600	31000
Lead	ug/L	240	12000	380	140	310		ND	490
Magnesium	ug/L	11	14	17	18	22		26	15
Manganese	ug/L	110	540	57	45	120		280	380
Mercury	ug/L	0.056	0.2	ND	ND	ND		ND	0.16
Nickel	ug/L	6.3	20	10	10	11		9.4	9.9
Potassium	ug/L	6.7	8.9	8	8.3	9		12	9.5
Selenium	ug/L	ND	ND	ND	ND	ND		ND	ND
Silver	ug/L	ND	ND	ND	ND	ND		ND	ND
Sodium	ug/L	46	44	69	70	69		97	28
Thallium	ug/L	ND	ND	ND	ND	ND		ND	ND
Vanadium	ug/L	14	56	ND	ND	ND		21	30
Zinc	ug/L	29	400	59	13	13		ND	150
PCBs									
Aroclor 1016	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1221	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1232	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1242	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1248	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1254	ug/L	ND	ND	ND	ND	ND		ND	ND
Aroclor 1260	ug/L	ND	ND	ND	ND	ND		ND	ND
Pesticides									
4,4'-DDD	ug/L	ND	ND	ND	ND	ND		ND	ND
4,4'-DDE	ug/L	ND	ND	ND	ND	ND		ND	ND
4,4'-DDT	ug/L	ND	ND	ND	ND	ND		ND	ND
Aldrin	ug/L	ND	ND	ND	ND	ND		ND	ND
alpha-BHC	ug/L	ND	ND	ND	ND	ND		ND	ND
alpha-Chlordane	ug/L	ND	ND	ND	ND	ND		ND	ND
beta-BHC	ug/L	ND	ND	ND	ND	ND		ND	ND
Chlordane	ug/L	ND	ND	ND	ND	ND		ND	ND
delta-BHC	ug/L	ND	ND	ND	ND	ND		ND	ND
Dieldrin	ug/L	ND	ND	ND	ND	ND		ND	ND
Endosulfan I	ug/L	ND	ND	ND	ND	ND		ND	ND
Endosulfan II	ug/L	ND	ND	ND	ND	ND		ND	ND
Endosulfan sulfate	ug/L	ND	ND	ND	ND	ND		ND	ND
Endrin	ug/L	ND	ND	ND	ND	ND		ND	ND
Endrin aldehyde	ug/L	ND	ND	ND	ND	ND		ND	ND
Endrin ketone	ug/L	ND	ND	ND	ND	ND		ND	ND
gamma-Chlordane	ug/L	ND	ND	ND	ND	ND		ND	ND
Heptachlor	ug/L	ND	ND	ND	ND	ND		ND	ND
Heptachlor epoxide	ug/L	ND	ND	ND	ND	ND		ND	ND
Lindane	ug/L	ND	ND	ND	ND	ND		ND	ND
Methoxychlor	ug/L	ND	ND	ND	ND	ND		ND	ND
Toxaphene	ug/L	ND	ND	ND	ND	ND		ND	ND

TABLE B-13
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SW-1 08/28/96 Primary		SW-2 08/28/96 Primary		SW-3 08/28/96 Primary		SW-4 08/28/96 Primary		SC-SW-01 01/02/02 Primary		SC-SW-02 01/02/02 Primary		SC-SW-03 01/02/02 Primary		SC-SW-04 01/02/02 Primary	
Volatile Organics																	
1,1,1-Trichloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,1,1,2-Tetrachloroethane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
1,1,2,2-Tetrachloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,1,2-Trichloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	--		--		--		--		ND		ND		ND		ND	
1,1-Dichloro-1-propene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
1,1-Dichloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,1-Dichloroethene	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1-Methylethyl-benzene	ug/L	--		--		--		--		ND		ND		ND		ND	
1,2-Dibromoethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,2-Dibromo-3-chloropropane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
1,2-Dichloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,2-Dichloroethene	ug/L	--		--		--		--		ND		ND		ND		ND	
1,2-Dichloropropane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
1,2,4-Trimethylbenzene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
1,3-Dichloropropane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
1,3,5-Trimethylbenzene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
2-Butanone	ug/L	--		--		--		--		ND		3	J	3	J	ND	
2-Hexanone	ug/L	--		--		--		--		ND		ND		ND		ND	
2,2-Dichlororopane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
4-Methyl-2-pentanone	ug/L	--		--		--		--		ND		ND		ND		ND	
Acetone	ug/L	--		--		--		--		3	J	12	J	3	J	2	J
Benzene	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Bromobenzene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
Bromochloromethane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
Bromodichloromethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Bromoform	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Bromomethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Butylbenzene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
Carbon disulfide	ug/L	--		--		--		--		ND		ND		ND		ND	
Carbon tetrachloride	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Chlorobenzene	ug/L	5	U	5	U	2.52	J	5	U	ND		5	J	4	J	ND	
Chloroethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Chloroform	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Chloromethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
cis-1,2-Dichloroethene	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
cis-1,3-Dichloropropene	ug/L	--		--		--		--		ND		ND		ND		ND	
Cumene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
Cyclohexane	ug/L	--		--		--		--		ND		ND		ND		ND	
Dibromochloropropane	ug/L	--		--		--		--		ND		ND		ND		ND	
Dibromochloromethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Dichlorodifluoromethane	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Dibromomethane	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
Ethylbenzene	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
m - and p-Xylenes	ug/L	5	U	5	U	5	U	5	U								
Methyl Acetate	ug/L	--		--		--		--		ND		ND		ND		ND	
Methylcyclohexane	ug/L	--		--		--		--		ND		ND		ND		ND	
Methylene chloride	ug/L	5	U	5	U	5	U	5	U	ND		ND		ND		ND	
Methyltert-butylether	ug/L	--		--		--		--		ND		ND		ND		ND	
n-Propylbenzene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
o-Chlorotoluene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
o-Xylene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
p_Chlorotoluene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
p_Cymene	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	
sec-Butylbenzne	ug/L	5	U	5	U	5	U	5	U	--		--		--		--	

TABLE B-13
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SW-1 08/28/96 Primary		SW-2 08/28/96 Primary		SW-3 08/28/96 Primary		SW-4 08/28/96 Primary		SC-SW-01 01/02/02 Primary	SC-SW-02 01/02/02 Primary	SC-SW-03 01/02/02 Primary	SC-SW-04 01/02/02 Primary
Styrene	ug/L	5	U	5	U	5	U	5	U	ND	ND	ND	ND
tert-Butylbenzene	ug/L	5	U	5	U	5	U	5	U	--	--	--	--
Tetrachloroethene	ug/L	5	U	5	U	5	U	5	U	ND	ND	ND	ND
Toluene	ug/L	5	U	5	U	5	U	5	U	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/L	5	U	5	U	5	U	5	U	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--		--		--		--		ND	ND	ND	ND
Trichloroethylene	ug/L	5	U	5	U	5	U	5	U	--	--	--	--
Trichlorofluoromethane	ug/L	5	U	5	U	5	U	5	U	ND	ND	ND	ND
Vinyl chloride	ug/L	5	U	5	U	5	U	5	U	ND	ND	ND	ND
Xylene (total)	ug/L	--		--		--		--		ND	ND	ND	ND
Semivolatile Organics													
1,2,3-Trichlorobenzene	ug/L	5	U	5	U	5	U	5	U	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	5	U	ND		ND		1.63	J	ND	12	11	--
1,2-Dichlorobenzene	ug/L	1.57	J	1.43	J	6.13		3.14	J	ND	3	3	J
1,3-Dichlorobenzene	ug/L	5	U	ND		4.56	J	ND		ND	1	1	J
1,4-Dichlorobenzene	ug/L	1.47	J	1.21	J	6.37		1.8	J	2	J	4	J
2,4,5-Trichlorophenol	ug/L	--		--		--		--		ND	ND	ND	ND
2,4,6-Trichlorophenol	ug/L	--		--		--		--		ND	ND	ND	ND
2,4-Dichlorophenol	ug/L	--		--		--		--		ND	ND	ND	ND
2,4-Dimethylphenol	ug/L	--		--		--		--		ND	ND	ND	ND
2,4-Dinitrophenol	ug/L	--		--		--		--		ND	ND	ND	ND
2,4-Dinitrotoluene	ug/L	--		--		--		--		ND	ND	ND	ND
2,6-Dinitrotoluene	ug/L	--		--		--		--		ND	ND	ND	ND
2-Chloronaphthalene	ug/L	--		--		--		--		ND	ND	ND	ND
2-Chlorophenol	ug/L	--		--		--		--		ND	ND	ND	ND
2-Methylnaphthalene	ug/L	--		--		--		--		ND	10	9.7	ND
2-Methylphenol	ug/L	--		--		--		--		ND	6.2	ND	ND
2-Nitroaniline	ug/L	--		--		--		--		ND	ND	ND	ND
2-Nitrophenol	ug/L	--		--		--		--		ND	ND	ND	ND
3-Nitroaniline	ug/L	--		--		--		--		ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ug/L	--		--		--		--		ND	ND	ND	ND
4-Bromophenylphenyl ether	ug/L	--		--		--		--		ND	ND	ND	ND
4-Chloroaniline	ug/L	--		--		--		--		ND	ND	ND	ND
4-Chlorophenyl phenyl ether	ug/L	--		--		--		--		ND	ND	ND	ND
4-Chloro-3-methylphenol	ug/L	--		--		--		--		ND	ND	ND	ND
4-Methylphenol	ug/L	--		--		--		--		ND	ND	ND	ND
4-Nitroaniline	ug/L	--		--		--		--		ND	ND	ND	ND
4-Nitrophenol	ug/L	--		--		--		--		ND	ND	ND	ND
Acenaphthene	ug/L	--		--		--		--		1	J	2	J
Acenaphthylene	ug/L	--		--		--		--		3	J	ND	ND
Anthracene	ug/L	--		--		--		--		4	J	ND	ND
Azobenzene	ug/L	--		--		--		--		ND	ND	ND	ND
Benzo(a)anthracene	ug/L	--		--		--		--		7.6	ND	ND	ND
Benzo(a)pyrene	ug/L	--		--		--		--		9.1	ND	ND	ND
Benzo(b)fluoranthene	ug/L	--		--		--		--		12	ND	ND	ND
Benzo(ghi)perylene	ug/L	--		--		--		--		6.3	ND	ND	ND
Benzo(k)fluoranthene	ug/L	--		--		--		--		4.3	ND	ND	ND
Benzyl alcohol	ug/L	--		--		--		--		ND	ND	ND	ND
Bis(2-chloroethoxy)methane	ug/L	--		--		--		--		ND	ND	ND	ND
Bis(2-chloroethyl)ether	ug/L	--		--		--		--		ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	ug/L	--		--		--		--		ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ug/L	--		--		--		--		11	ND	ND	ND
Bis(chloromethyl)ether	ug/L	--		--		--		--		ND	ND	ND	ND
Butyl benzyl phthalate	ug/L	--		--		--		--		ND	ND	ND	ND
Chrysene	ug/L	--		--		--		--		8.6	ND	ND	ND
Dibenzo(a,h)anthracene	ug/L	--		--		--		--		ND	ND	ND	ND

TABLE B-13
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SW-1 08/28/96 Primary	SW-2 08/28/96 Primary	SW-3 08/28/96 Primary	SW-4 08/28/96 Primary	SC-SW-01 01/02/02 Primary	SC-SW-02 01/02/02 Primary	SC-SW-03 01/02/02 Primary	SC-SW-04 01/02/02 Primary
Dibenzofuran	ug/L	--	--	--	--	ND	2 J	2 J	ND
Diethyl phthalate	ug/L	--	--	--	--	ND	ND	ND	ND
Dimethyl phthalate	ug/L	--	--	--	--	ND	1 J	ND	ND
Di-n-butyl phthalate	ug/L	--	--	--	--	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	--	--	--	--	ND	ND	ND	ND
Fluoranthene	ug/L	--	--	--	--	16	ND	ND	ND
Fluorene	ug/L	--	--	--	--	ND	ND	ND	ND
Hexachlorobenzene	ug/L	--	--	--	--	ND	ND	ND	ND
Hexachlorobutadiene	ug/L	5 U	5 U	5 U	5 U	ND	ND	ND	ND
Hexachlorocyclopentadiene	ug/L	--	--	--	--	ND	ND	ND	ND
Hexachloroethane	ug/L	--	--	--	--	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ug/L	--	--	--	--	6.5	ND	ND	ND
Isophorone	ug/L	--	--	--	--	ND	ND	ND	ND
Naphthalene	ug/L	5 U	5 U	5 U	3.15 J	ND	45	42	ND
Nitrobenzene	ug/L	--	--	--	--	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L	--	--	--	--	ND	ND	ND	ND
N-Nitrosodipropylamine	ug/L	--	--	--	--	ND	ND	ND	ND
Pentachlorophenol	ug/L	--	--	--	--	ND	ND	ND	ND
Phenanthrene	ug/L	--	--	--	--	5.1	ND	ND	ND
Phenol	ug/L	--	--	--	--	ND	ND	ND	ND
Pyrene	ug/L	--	--	--	--	19	ND	ND	ND
Metals									
Aluminum	ug/L	--	--	--	--	67000	5500	10000	1200
Antimony	ug/L	--	--	--	--	15	ND	ND	ND
Arsenic	ug/L	--	--	--	--	73	ND	ND	ND
Barium	ug/L	--	--	--	--	390	120	150	58
Beryllium	ug/L	--	--	--	--	ND	ND	ND	ND
Cadmium	ug/L	--	--	--	--	9.3	ND	ND	ND
Calcium	ug/L	--	--	--	--	200	180	190	160
Chromium (Dissolved)	ug/L	--	--	--	--	--	--	--	--
Chromium (Total)	ug/L	--	--	--	--	3000	280	390	24
Chromium (Hexavalent, dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	62	ND	8.7	--
Copper	ug/L	--	--	--	--	460	ND	31	ND
Iron	ug/L	--	--	--	--	16000	18000	29000	2400
Lead	ug/L	--	--	--	--	540	ND	29	ND
Magnesium	ug/L	--	--	--	--	600	250	270	490
Manganese	ug/L	--	--	--	--	3300	920	1100	310
Mercury	ug/L	--	--	--	--	8.8	ND	0.49	0.066
Nickel	ug/L	--	--	--	--	200	17	24	5.7
Potassium	ug/L	--	--	--	--	180	100	100	150
Selenium	ug/L	--	--	--	--	ND	ND	ND	ND
Silver	ug/L	--	--	--	--	8.1	ND	ND	ND
Sodium	ug/L	--	--	--	--	5000	2100	2300	4000
Thallium	ug/L	--	--	--	--	ND	ND	ND	ND
Vanadium	ug/L	--	--	--	--	250	ND	22	ND
Zinc	ug/L	--	--	--	--	1100	ND	86	ND
PCBs/Pesticides									
Aroclor 1016	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1221	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1232	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1242	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1248	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1254	ug/L	--	--	--	--	ND	ND	ND	ND
Aroclor 1260	ug/L	--	--	--	--	ND	ND	ND	ND
4,4'-DDD	ug/L	--	--	--	--	ND	ND	ND	ND

TABLE B-13
HISTORICAL ANALYTICAL RESULTS
SURFACE WATER SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SW-1 08/28/96 Primary	SW-2 08/28/96 Primary	SW-3 08/28/96 Primary	SW-4 08/28/96 Primary	SC-SW-01 01/02/02 Primary	SC-SW-02 01/02/02 Primary	SC-SW-03 01/02/02 Primary	SC-SW-04 01/02/02 Primary
4,4'-DDE	ug/L	--	--	--	--	ND	ND	ND	ND
4,4'-DDT	ug/L	--	--	--	--	ND	ND	ND	ND
Aldrin	ug/L	--	--	--	--	ND	ND	ND	ND
alpha-BHC	ug/L	--	--	--	--	ND	ND	ND	ND
alpha-Chlordane	ug/L	--	--	--	--	ND	ND	ND	ND
beta-BHC	ug/L	--	--	--	--	ND	ND	ND	ND
Chlordane	ug/L	--	--	--	--	ND	ND	ND	ND
delta-BHC	ug/L	--	--	--	--	ND	ND	ND	ND
Dieldrin	ug/L	--	--	--	--	ND	ND	ND	ND
Endosulfan I	ug/L	--	--	--	--	ND	ND	ND	ND
Endosulfan II	ug/L	--	--	--	--	ND	ND	ND	ND
Endosulfan sulfate	ug/L	--	--	--	--	ND	ND	ND	ND
Endrin	ug/L	--	--	--	--	ND	ND	ND	ND
Endrin aldehyde	ug/L	--	--	--	--	ND	ND	ND	ND
Endrin ketone	ug/L	--	--	--	--	ND	ND	ND	ND
gamma-Chlordane	ug/L	--	--	--	--	ND	ND	ND	ND
Heptachlor	ug/L	--	--	--	--	ND	ND	ND	ND
Heptachlor epoxide	ug/L	--	--	--	--	ND	ND	ND	ND
Lindane	ug/L	--	--	--	--	ND	ND	ND	ND
Methoxychlor	ug/L	--	--	--	--	ND	ND	ND	ND
Toxaphene	ug/L	--	--	--	--	ND	ND	ND	ND

TABLE B-14
HISTORICAL ANALYTICAL RESULTS
LAGOON SOLIDS SAMPLES AND PERIMETER BORING SOIL SAMPLES (1985-1987)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Lagoon Solids Samples

Constituent of Interest	Units	A-1	A-2-SS	B-1	B-2-SS	C-1	C-1	C-2H-SS	C-2H-SS	D-1	D-2-SS	E-1	E-2-SS	E-3-SS													
		03/10/87 0.5-1.5 Primary	03/10/87 1.8-2.2 Primary	03/10/87 0.4-1.2 Primary	03/10/87 3.5-4.8 Primary	02/27/87 0-0.8 Primary	02/27/87 0-0.8 Duplicate	02/27/87 1.2-2.1 Primary	02/27/87 1.2-2.1 Duplicate	02/26/87 0.1-0.9 Primary	02/26/87 2-2.5 Primary	02/26/87 0-0.5 Primary	02/26/87 0.8-1.3 Primary	02/26/87 1.6-1.9 Primary													
Polychlorinated Dioxins and Furans																											
2,3,7,8-TCDD	ug/Kg	2.6		1.5	U	8.2		0.11	U	19.5		16.3		0.23		0.45	U	0.9	U	0.053	U	0.85		31.9		2.9	

Constituent of Interest	Units	E-4-SS 02/26/87 2-2.3 Primary	EL-1 08/01/85 0-0.5 Primary	EL-1 08/01/85 0-0.5 Duplicate	EL-3 08/01/85 0-0.5 Primary	F-1 02/26/87 0-0.6 Primary	F-4-SS 02/26/87 5-5.5 Primary	G-1 02/26/87 0-0.8 Primary	G-2-SS 02/26/87 1.5-2.5 Primary	H-1 02/26/87 0.2-1.2 Primary	H-2-SS 02/26/87 1.7-2.1 Primary	I-1 02/27/87 0-0.8 Primary	I-1H-NS 02/27/87 0-0.8 Primary	I-2-SS 02/27/87 1.3-1.8 Primary													
Polychlorinated Dioxins and Furans																											
2,3,7,8-TCDD	ug/Kg	1.2		0.1	U	0.1	U	62.1		2.3		4.3		2.8		0.12	U	0.73	U	0.13	U	1.1	U	1.3		3.2	

Constituent of Interest	Units	I-3-SS	I-4-SS	J-1	J-3-SS	J-4-SS	K-1H	K-2-SS	K-3-SS	K-4-SS	L-1H	LD-1	M-1	M-2-SS													
		02/27/87	02/27/87	02/27/87	02/27/87	02/27/87	03/12/87	03/12/87	03/12/87	03/12/87	03/11/87	08/01/85	03/12/87	03/12/87													
		2.5-3.5	4.5-5.5	0.1-1.1	2.9-3.9	5-5.8	0.1-1.1	1.7-2.2	2.4-3.1	4.6-5.6	0.2-1.2	0-0.5	0-0.8	1.8-2.4													
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary													
Polychlorinated Dioxins and Furans																											
2,3,7,8-TCDD	ug/Kg	38.4		6.2		11.2		237		148		69.6		2.7		6.1		3.7		0.71		3.1		0.36	U	0.084	U

Constituent of Interest	Units	N-1		N-1		N-2-SS		O-1		O-2-SS		P-1		P-2-SS		Q-1SS-NS		Q-1		Q-1D-SS		Q-2D-SS		R-1		R-2-SS	
		03/12/87		03/12/87		03/12/87		03/13/87		03/13/87		03/13/87		03/13/87		03/11/87		03/11/87		03/11/87		03/11/87		03/17/87		03/17/87	
		0-0.8		0-0.8		1.7-2.0		0-1.0		1.6-2.3		0-0.8		1.3-1.8		0.3-0.8		0.3-0.8		0.3-0.8		2.2-2.6		0-0.8		2.5-3.2	
		Primary		Duplicate		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary		Primary	
Polychlorinated Dioxins and Furans																											
2,3,7,8-TCDD	ug/Kg	0.62	U	0.49	U	0.18	U	0.33	U	0.028	U	0.6	U	0.11	U	8.2		0.56	U	0.26	U	0.089	U	15.3		62.1	

Constituent of Interest	Units	R-3-SS	R-4-SS	R-4-SS	S-1-SS	S-2-SS	T-1-SS	T-2-SS	WL-2	WL-2D								
		03/17/87	03/17/87	03/17/87	03/16/87	03/16/87	03/13/87	03/13/87	08/01/85	08/01/85								
		4.2-5.0	6-6.7	6-6.7	0.3-0.8	1.8-2.6	0.5-1.5	2.5-3.2	0-0.5	0-0.5								
		Primary	Primary	Duplicate	Primary	Primary	Primary	Primary	Primary	Primary								
Polychlorinated Dioxins and Furans																		
2,3,7,8-TCDD	ug/Kg	190		46		43		0.41	U	0.076	U	0.23	U	0.21	U	55.6		45.2

Lagoon Perimeter Boring Soil Samples

Constituent of Interest	Units	LP-1A 08/01/85 0-0.5 Primary	LP-1B 08/01/85 1.5-1.7 Primary	LP-2 08/01/85 0.5-WT Primary	LP-3A 08/01/85 0-0.5 Primary	LP-3C 08/01/85 3.5-4 Primary	LP-4A 08/01/85 0-0.5 Primary	LP-4B 08/01/85 6-6.5 Primary	LP-5A 08/01/85 0-0.5 Primary	LP-5D 08/01/85 3.6-4.1 Primary	LP-6A 08/01/85 0-0.5 Primary	LP-6B 08/01/85 0.5-WT Primary	LP-7A 08/01/85 0-0.5 Primary	LP-7B 08/01/85 1.7-2.1 Primary													
Polychlorinated Dioxins and Furans																											
2,3,7,8-TCDD	ug/Kg	0.05	U	0.12	U	0.67	U	0.02	U	0.17	U	0.16	U	0.15	U	0.1	U	0.01	U	0.03	U	0.05	U	0.09	U	0.38	U

TABLE B-15
HISTORICAL ANALYTICAL RESULTS
LAGOON SOLIDS SAMPLES (1991)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	ELS-1 01/01/91 top Primary		ELS-2 01/01/91 bottom Primary		WLS-1 01/01/91 top Primary		WLS-2 01/01/91 bottom Primary	
Volatile Organics									
Benzene	mg/Kg	0.896		23.4		15	U	4.1	U
Chlorobenzene	mg/Kg	0.91	U	9.1	U	20	U	5.6	U
Ethylbenzene	mg/Kg	2.58		43.3		39.6		15.2	
Methylene chloride	mg/Kg	0.438		5.33		21.5		6.09	
Toluene	mg/Kg	3.05		63.1		33.8		15.3	
Semivolatile Organics									
1,2,4-Trichlorobenzene	mg/Kg	5.8	U	290	U	130	U	170	U
1,2-Dichlorobenzene	mg/Kg	22.1		290	U	130	U	170	U
1,3-Dichlorobenzene	mg/Kg	5.8	U	290	U	130	U	170	U
1,4-Dichlorobenzene	mg/Kg	40		660	U	290	U	400	U
2,4-Dimethylphenol	mg/Kg	17600		3490		21900		2770	
Acenaphthene	mg/Kg	529		3650		6070		2090	
Anthracene	mg/Kg	180		290	U	1700		190	
Benzo(a)anthracene	mg/Kg	24	U	1200	U	520	U	720	U
Benzo(b)fluoranthene	mg/Kg	15	U	730	U	320	U	440	U
Fluoranthene	mg/Kg	115		330	U	903		200	U
Fluorene	mg/Kg	587		604		5150		717	
Hexachlorobenzene	mg/Kg	93.5		290	U	130	U	170	U
Naphthalene ⁽¹⁾	mg/Kg	815000		25200000		2040000		300000	
Phenanthrene	mg/Kg	715		820	U	5320		628	
Phenol	mg/Kg	4220		14100		1210		12100	
Pyrene	mg/Kg	32.2		290	U	663		170	U
Metals									
Antimony	mg/Kg	19	U	19		39	U	11	U
Arsenic	mg/Kg	3.1	U	5.1		33	U	9.5	U
Beryllium	mg/Kg	0.31	U	0.3	U	0.66	U	0.19	U
Cadmium	mg/Kg	0.62	U	0.61	U	1.3	U	0.39	
Chromium	mg/Kg	767		2080		200		521	
Copper	mg/Kg	200		64		480		66	
Lead	mg/Kg	570		4270		970		1200	
Mercury	mg/Kg	4.5		3.1		16		0.15	U
Nickel	mg/Kg	91		150		130		41	
Selenium	mg/Kg	7.5	U	7.5	U	3.3	U	0.94	U
Silver	mg/Kg	3.1	U	3	U	6.6	U	1.9	U
Thallium	mg/Kg	16	U	3	U	6.6	U	1.9	U
Zinc	mg/Kg	20		39		13	U	20	
RCRA Characteristics and Indicators									
Cyanide (Reactivity)	mg/Kg	12.58		14.3		58.7		98.7	

1. Naphthalene results as reported by Weston exceed pure product concentration.
Likely as quantitated by the laboratory by instruments outside linear calibration range.

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-04 01/02/02	SC-SED-05 01/02/02	SC-SED-06 01/02/02	SC-SED-07 01/02/02	SC-SED-08 01/02/02	SC-SED-09 01/02/02	SC-SED-10 01/03/02	SC-SED-11 01/03/02	SC-SED-12 01/03/02	SC-SED-13 01/03/02	SC-SED-14 01/03/02	SC-SED-15 01/03/02	SC-SED-16 01/03/02	SC-SED-17 01/03/02	SC-SED-18 01/03/02	SC-SED-19 01/03/02	SC-SED-20 01/03/02
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Volatile Organics																		
1,1,1-Trichloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylethyl-benzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	mg/Kg	ND	ND	ND	0.86	ND	ND	ND	ND	ND	14	ND	ND	2.2	2	2	250	43
Chloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloropropane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Acetate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyltert-butylether	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organics																		
1,2,4-Trichlorobenzene	mg/Kg	ND	ND	ND	0.43	1.4	0.32	ND	ND	0.59	2.5	1.3	ND	1.6	ND	0.51	2900	1.7
1,2-Dichlorobenzene	mg/Kg	ND	ND	0.4	0.4	0.93	0.23	ND	ND	1	6.4	3.3	1.6	4.7	0.76	0.87	5300	4.6
1,3-Dichlorobenzene	mg/Kg	ND	ND	0.22	0.2	0.84	0.3	ND	0.32	ND	12	5.5	2.9	9.6	1.2	0.83	3900	9.3
1,4-Dichlorobenzene	mg/Kg	ND	0.38	0.35	0.48	3	0.64	0.24	0.4	0.31	18	8.9	5.1	13	2.2	1.4	6000	21
2,4,5-Trichlorophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-04 01/02/02	SC-SED-05 01/02/02	SC-SED-06 01/02/02	SC-SED-07 01/02/02	SC-SED-08 01/02/02	SC-SED-09 01/02/02	SC-SED-10 01/03/02	SC-SED-11 01/03/02	SC-SED-12 01/03/02	SC-SED-13 01/03/02	SC-SED-14 01/03/02	SC-SED-15 01/03/02	SC-SED-16 01/03/02	SC-SED-17 01/03/02	SC-SED-18 01/03/02	SC-SED-19 01/03/02	SC-SED-20 01/03/02
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
2-Methylnaphthalene	mg/Kg	ND	ND	0.43	ND	1.4	2.2	ND	ND	3.9	0.66	ND	ND	ND	ND	ND	31	ND
2-Methylphenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenylphenyl ether	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	mg/Kg	ND	ND	ND	ND	ND	0.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/Kg	ND	ND	0.23	0.15	2.4	0.7	ND	0.23	0.6	11	1.2	1.3	0.88	ND	ND	ND	ND
Acenaphthylene	mg/Kg	ND	ND	ND	ND	0.52	0.61	ND	ND	ND	1.4	0.87	1.3	0.71	ND	ND	ND	ND
Anthracene	mg/Kg	0.14	J	ND	ND	0.63	1.1	ND	0.33	ND	2.2	1.6	1.7	1.8	ND	ND	ND	ND
Azobenzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	mg/Kg	0.49	J	ND	0.5	2	2.5	0.57	0.83	ND	6.4	6.1	4.7	7.6	0.068	1	6.8	0.52
Benzo(a)pyrene	mg/Kg	0.46	J	ND	0.57	2.2	3.2	0.73	0.86	ND	7.6	8.1	5.8	9.3	0.85	1.2	6.4	0.59
Benzo(b)fluoranthene	mg/Kg	0.64		0.45	0.85	0.18	3.2	4.5	0.92	1.1	0.35	11	11	7.8	12	1.2	1.7	11
Benzo(ghi)perylene	mg/Kg	0.25	J	ND	0.4	ND	1.6	2.3	0.58	0.63	ND	4.5	4.8	3.3	4.7	0.66	0.83	5.3
Benzo(k)fluoranthene	mg/Kg	0.26	J	ND	0.32	ND	1.2	1.8	0.36	ND	ND	3.2	3.9	3.1	4.5	0.44	0.62	3.7
Benzoic acid	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzyl alcohol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	2	21	1.3
Butyl benzyl phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND
Carbazole	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	0.64		0.42	0.68	0.14	2.5	3.8	0.8	ND	ND	ND	7.6	6.7	9.6	0.91	1.3	9.2
Dibenzo(a,h)anthracene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	mg/Kg	ND	ND	ND	ND	1.6	0.71	ND	ND	ND	3	0.8	ND	0.83	ND	ND	3.3	ND
Diethyl phthalate	mg/Kg	0.34	J	1.3	0.49	0.2	0.21	0.31	0.34	ND	2.6	2.7	2.8	2.6	ND	ND	ND	ND
Dimethyl phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.77	0.25	ND	0.88
Fluoranthene	mg/Kg	0.87		0.95	0.83	0.18	2.9	3.4	0.82	1.4	0.75	9.8	10	8.8	12	1.9	2	12
Fluorene	mg/Kg	ND	ND	ND	ND	1	0.29	ND	ND	ND	ND	ND	ND	0.62	ND	ND	ND	ND
Hexachlorobenzene	mg/Kg	ND	ND	ND	ND	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/Kg	0.27	J	ND	0.43	ND	1.8	2.5	0.58	0.62	ND	4.8	5.3	3.6	5.5	0.69	0.9	5.1
Isophorone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	mg/Kg	ND	1.9	0.52	0.41	4.5	6.3	ND	0.84	3.7	3.4	4.9	2.7	5.7	ND	0.97	23	ND
Nitrobenzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodipropylamine	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/Kg	0.23	J	0.66	0.73	0.14	2	1.7	0.33	0.79	1.2	3.3	4.5	4.3	4.9	0.71	0.82	9.6
Phenol	mg/Kg	ND	ND	ND	ND	ND	0.45	ND	0.31	0.37	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	mg/Kg	0.69		0.94	0.7	0.16	2.8	3.4	0.79	1.5	0.55	9.3	9.8	8.5	11	1.8	1.8	10
Polychlorinated Dioxins and Furans																		
1,2,3,4,6,7,8-HpCDD	ug/Kg	0.0236		0.206	0.252	0.133	0.231	0.799	0.0461	0.0472	0.0637	0.917	0.902	0.733	0.976	0.201	0.139	0.829
1,2,3,4,6,7,8-HpCDF	ug/Kg	0.318		34.1	16.1	24.3	31.4	13.4	3.33	1.9	4.66	52.4	51.4	38.2	20.2	9.51	4.36	27.2
1,2,3,4,7,8,9-HpCDF	ug/Kg	0.01	J	1	0.486	0.737	0.859	0.378	0.0843	0.0504	0.12	1.54	1.69	1.05	0.548	0.246	0.104	0.617

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-04 01/02/02	SC-SED-05 01/02/02	SC-SED-06 01/02/02	SC-SED-07 01/02/02	SC-SED-08 01/02/02	SC-SED-09 01/02/02	SC-SED-10 01/03/02	SC-SED-11 01/03/02	SC-SED-12 01/03/02	SC-SED-13 01/03/02	SC-SED-14 01/03/02	SC-SED-15 01/03/02	SC-SED-16 01/03/02	SC-SED-17 01/03/02	SC-SED-18 01/03/02	SC-SED-19 01/03/02	SC-SED-20 01/03/02
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
1,2,3,4,7,8-HxCDD	ug/Kg	0.00107	0.0246	0.0121	0.0144	0.0191	0.0143	0.00308	0.00193	0.00328	0.0701	0.0573	0.0462	0.0413	0.012	0.00766	0.0435	0.00459
1,2,3,4,7,8-HxCDF	ug/Kg	0.0997	9.85	4.88	7.65	9.09	4.33	0.952	0.587	1.35	18.5	17.8	12.1	5.11	2.43	1.19	7.24	0.178
1,2,3,6,7,8-HxCDD	ug/Kg	0.00274	0.0498	0.0413	0.0483	0.0555	0.0396	0.00722	0.00443	0.00822	0.152	0.157	0.119	0.11	0.0285	0.016	0.107	0.00506
1,2,3,6,7,8-HxCDF	ug/Kg	0.0143	1.45	0.634	0.993	1.08	0.604	0.13	0.102	0.206	2.67	2.67	1.98	0.947	0.392	0.191	1.34	0.0311
1,2,3,7,8,9-HxCDD	ug/Kg	0.0018	0.0238	0.0195	0.02	0.0252	0.0203	0.00242	0.00479	0.00505	0.0583	0.0989	0.0722	0.0973	0.0283	0.014	0.084	0.00496
1,2,3,7,8-PCDD	ug/Kg	0.000848	0.0237	0.0183	0.0103	0.0155	0.00986	0.00198	0.00193	0.00171	0.0589	0.0552	0.0434	0.0589	0.0158	0.00696	0.0467	ND
1,2,3,7,8-PCDF	ug/Kg	0.0024	0.104	0.0768	0.0953	0.116	0.0848	0.0165	0.0189	0.0269	0.397	0.525	0.334	0.234	0.0948	0.0391	0.186	0.00743
2,3,4,6,7,8-HxCDF	ug/Kg	0.00521	J	0.605	0.291	0.505	0.613	0.283	0.0633	0.0578	0.101	1.26	0.859	0.748	0.537	0.188	0.0805	0.73
2,3,4,7,8-PCDF	ug/Kg	0.00989	J	0.647	0.46	0.557	0.641	0.364	0.0817	0.0627	0.108	1.43	1.43	1.01	0.668	0.221	0.116	0.582
2,3,7,8-TCDD	ug/Kg	0.00786	0.0146	0.00633	0.00499	ND	0.0051	0.00695	0.00153	0.00201	0.0964	0.081	0.0917	0.05	0.00883	0.00612	0.0851	ND
2,3,7,8-TCDF	ug/Kg	0.0138	0.307	0.361	0.377	0.389	0.2	0.0492	0.0413	0.0474	1.14	1.42	0.911	0.668	0.153	0.0726	0.594	0.0152
OCDD	ug/Kg	0.257	1.63	2.17	1.38	2.3	13.7	0.517	0.395	0.394	9.55	9.75	0.96	10	1.81	1.25	9.55	1.08
OCDF	ug/Kg	0.487	65.3	24.3	38.1	47.9	21	5.68	2.91	6.17	74.5	79.7	66.6	26	13.3	5.33	28	0.825
Total HpCDD	ug/Kg	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0512	0.0431	0.0252	0.00982	0.00466	0.0183	ND
Total HpCDF	ug/Kg	0.357	38.6	18.5	28.1	35.7	15.3	3.67	2.27	5.37	59.4	58.5	42.8	22.9	10.7	4.82	30.5	0.634
Total HxCDD	ug/Kg	0.0132	0.178	0.26	0.16	0.385	0.148	0.038	0.0317	0.037	1.2	1.27	0.757	0.952	0.207	0.0956	1.02	0.0653
Total HxCDF	ug/Kg	0.204	18	9.74	15.6	17.9	8.81	2.01	1.15	2.87	37.9	36.9	24.7	11.8	5.16	2.52	17.3	0.383
Total PeCDD	ug/Kg	0.0116	0.156	0.161	0.0749	0.193	0.1	0.0103	0.00581	0.0118	0.576	0.525	0.45	0.621	0.135	ND	0.508	0.0181
Total PeCDF	ug/Kg	0.0864	5.06	3.99	5.63	6.14	3.19	0.733	0.48	1	17.3	19.3	11.5	8.53	2.29	1.18	8.27	0.16
Polychlorinated Biphenyls (Aroclors)																		
Aroclor 1016	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1221	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1232	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1242	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1248	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor 1254	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	0.24	ND	ND	0.71	ND
Aroclor 1260	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total PCBs	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	0.24	ND	ND	0.71	ND
Pesticides/Herbicides																		
4,4'-DDD	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	mg/Kg	ND	ND	ND	ND	0.006	0.008	ND	ND	ND	0.03	ND	ND	ND	ND	ND	ND	ND
4,4'-DDT	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	ND	ND	ND	ND	ND
Aldrin	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-BHC	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
beta-BHC	mg/Kg	ND	0.021	ND	ND	ND	ND	ND	ND	ND	0.073	ND	ND	ND	0.031	0.015	ND	0.013
Chlordane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
delta-BHC	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dieldrin	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.067	0.064	ND	ND	ND	ND	ND
Endosulfan I	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan sulfate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.089	ND	ND	ND	ND	ND
Endrin aldehyde	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endrin ketone	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.037	ND
gamma-Chlordane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Heptachlor epoxide	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	ND	ND	ND	ND	ND	ND
Lindane	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methoxychlor	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toxaphene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																		
Aluminum	mg/Kg	12000	4700	1000	11000	4100	5300	19000	1500	1600	12000	12000	12000	13000	2800	2500	19000	8300
Antimony	mg/Kg	20	4.4	4.2	4.6	9.5	11	57	8.6	8.9	38	37	45	170	18	12	55	18
Arsenic	mg/Kg	21	9.3	4.4	2.7	6.2	2.5	2.4	1.6	1.1	17	20	18	24	4.7	3.2	24	3
Barium	mg/Kg	58	190	160	62	210	260	110	300	180	15	18	35	13	130	380	63	200
Beryllium	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.72	0.61	0.76	ND	ND	0.68	ND

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-04	SC-SED-05	SC-SED-06	SC-SED-07	SC-SED-08	SC-SED-09	SC-SED-10	SC-SED-11	SC-SED-12	SC-SED-13	SC-SED-14	SC-SED-15	SC-SED-16	SC-SED-17	SC-SED-18	SC-SED-19	SC-SED-20
		01/02/02	01/02/02	01/02/02	01/02/02	01/02/02	01/02/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02	01/03/02
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Cadmium	mg/Kg	0.65	0.83	ND	0.46	0.43	ND	0.47	ND	ND	5	4.5	4.5	5.5	2.2	1.3	3.3	0.79
Calcium	mg/Kg	29000	210000	280000	59000	240000	220000	210000	310000	63000	53000	14000	20000	14000	260000	280000	7500	260000
Chromium	mg/Kg	3800	790	740	790	1600	2000	11000	1400	1500	5300	5100	7400	3800	1900	1600	5100	3700
Cobalt	mg/Kg	71	4.9	2.9	26	22	32	64	3.9	1.7	19	18	17	15	8	4.4	22	3.3
Copper	mg/Kg	17	26	9.3	130	73	74	12	16	11	170	250	250	320	54	34	210	25
Iron	mg/Kg	52000	42000	2400	23000	14000	22000	35000	5400	4100	57000	81000	65000	62000	24000	12000	77000	30000
Lead	mg/Kg	48	38	59	26	200	540	110	880	430	10000	3700	5200	30000	4400	3600	13000	330
Magnesium	mg/Kg	21000	18000	20000	13000	10000	25000	40000	12000	15000	6000	3800	4700	3400	7200	7400	4600	9500
Manganese	mg/Kg	740	1300	180	240	370	600	570	780	660	520	590	450	420	1900	1500	220	930
Mercury	mg/Kg	0.25	0.46	0.51	5.1	4.3	24	0.22	0.14	0.088	0.016	0.022	0.091	0.023	0.21	0.21	0.028	0.067
Nickel	mg/Kg	260	17	30	650	310	170	360	24	7.2	99	91	81	76	29	14	100	11
Potassium	mg/Kg	470	990	ND	520	210	300	ND	110	ND	750	1100	1200	840	240	180	780	270
Selenium	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	2.3	2.2	2.3	ND	ND	1.1	ND
Silver	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	2.2	2.7	2.2	ND	ND	1.4	ND
Sodium	mg/Kg	2300	13000	860	1700	1400	740	560	1600	1000	1500	960	990	850	1500	1300	350	2300
Thallium	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	2.2	2.4	3.2	ND	ND	ND	ND
Vanadium	mg/Kg	720	37	30	100	150	310	280	21	15	200	200	240	210	76	41	320	86
Zinc	mg/Kg	210	92	56	160	140	120	110	71	71	1500	900	830	1600	1200	870	1000	100
RCRA Characteristics and Indicators																		
Corrosivity (pH)	SU	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (Reactivity)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	mg/Kg	5500	29000	15000	25000	27000	18000	11000	14000	12000	130000	120000	170000	120000	28000	16000	100000	14000

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-21 01/03/02 Primary	SSW-SED-1 01/01/91 Primary	SSW-SED-2 01/01/91 Primary	SSW-SED-3 01/01/91 Primary	SSW-SED-4 01/01/91 Primary	SSW-SED-5 01/01/91 Primary	SSW-SED-6 01/01/91 Primary
Volatile Organics								
1,1,1-Trichloroethane	mg/Kg	ND	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	ND	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	ND	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	ND	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	ND	--	--	--	--	--	--
1,1-Dichloroethene	mg/Kg	ND	--	--	--	--	--	--
1-Methylethyl-benzene	mg/Kg	ND	--	--	--	--	--	--
1,2-Dibromoethane	mg/Kg	ND	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	ND	--	--	--	--	--	--
1,2-Dichloroethene	mg/Kg	ND	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	ND	--	--	--	--	--	--
2-Butanone	mg/Kg	ND	--	--	--	--	--	--
2-Hexanone	mg/Kg	ND	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/Kg	ND	--	--	--	--	--	--
Acetone	mg/Kg	ND	--	--	--	--	--	--
Benzene	mg/Kg	ND	0.0149	0.016	U 8.1	U 18	U 1.5	U 0.005
Bromodichloromethane	mg/Kg	ND	--	--	--	--	--	--
Bromoform	mg/Kg	ND	--	--	--	--	--	--
Bromomethane	mg/Kg	ND	--	--	--	--	--	--
Carbon disulfide	mg/Kg	ND	--	--	--	--	--	--
Carbon tetrachloride	mg/Kg	ND	--	--	--	--	--	--
Chlorobenzene	mg/Kg	41	1.484	0.0385	42.1	140	9.64	0.87
Chloroethane	mg/Kg	ND	--	--	--	--	--	--
Chloroform	mg/Kg	ND	--	--	--	--	--	--
Chloromethane	mg/Kg	ND	--	--	--	--	--	--
cis-1,2-Dichloroethene	mg/Kg	ND	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	ND	--	--	--	--	--	--
Cyclohexane	mg/Kg	ND	--	--	--	--	--	--
Dibromochloropropane	mg/Kg	ND	--	--	--	--	--	--
Dibromochloromethane	mg/Kg	ND	--	--	--	--	--	--
Dichlorodifluoromethane	mg/Kg	ND	--	--	--	--	--	--
Ethylbenzene	mg/Kg	ND	0.021	U 0.026	U 13	U 29	U 2.4	U 0.045
Methyl Acetate	mg/Kg	ND	--	--	--	--	--	--
Methylcyclohexane	mg/Kg	ND	--	--	--	--	--	--
Methylene chloride	mg/Kg	ND	0.0136	0.01	U 5.2	U 15	1.36	0.023
Methyltert-butylether	mg/Kg	ND	--	--	--	--	--	--
Styrene	mg/Kg	ND	--	--	--	--	--	--
Tetrachloroethene	mg/Kg	ND	--	--	--	--	--	--
Toluene	mg/Kg	ND	0.018	U 0.021	U 11	U 24	U 2	U 0.011
Trichlorofluoromethane	mg/Kg	ND	--	--	--	--	--	--
Vinyl chloride	mg/Kg	ND	--	--	--	--	--	--
Xylene (total)	mg/Kg	ND	--	--	--	--	--	0.049
Semivolatile Organics								
1,2,4-Trichlorobenzene	mg/Kg	25	5.6	U 0.68	U 190	257	13	U 0.59
1,2-Dichlorobenzene	mg/Kg	32	5.6	U 0.68	U 723	1070	13.3	1.1
1,3-Dichlorobenzene	mg/Kg	64	5.6	U 0.68	U 593	1010	35.2	0.8
1,4-Dichlorobenzene	mg/Kg	240	13	U 1.6	U 637	1170	48.5	1.9
2,4,5-Trichlorophenol	mg/Kg	ND	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	ND	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	ND	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	ND	7.9	U 0.96	U 10	U 11	U 18	U 0.43
2,4-Dinitrophenol	mg/Kg	ND	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	ND	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	ND	--	--	--	--	--	--
2-Chloronaphthalene	mg/Kg	ND	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	ND	--	--	--	--	--	--

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-21 01/03/02	SSW-SED-1 01/01/91	SSW-SED-2 01/01/91	SSW-SED-3 01/01/91	SSW-SED-4 01/01/91	SSW-SED-5 01/01/91	SSW-SED-6 01/01/91
		Primary	Primary	Primary	Primary	Primary	Primary	Primary
2-Methylnaphthalene	mg/Kg	ND	--	--	--	--	--	1.6
2-Methylphenol	mg/Kg	ND	--	--	--	--	--	0.43 U
2-Nitroaniline	mg/Kg	ND	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	ND	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	ND	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	ND	--	--	--	--	--	--
4-Bromophenylphenyl ether	mg/Kg	ND	--	--	--	--	--	--
4-Chloroaniline	mg/Kg	ND	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	ND	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	ND	--	--	--	--	--	--
4-Methylphenol	mg/Kg	ND	--	--	--	--	--	--
4-Nitroaniline	mg/Kg	ND	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	ND	--	--	--	--	--	--
Acenaphthene	mg/Kg	ND	5.6 U	0.68 U	7.86	7.6 U	13 U	2.3
Acenaphthylene	mg/Kg	ND	--	--		--	--	--
Anthracene	mg/Kg	1.8	5.6 U	0.68 U	7 U	7.6 U	13 U	0.5
Azobenzene	mg/Kg	ND	--	--	--	--	--	--
Benzo(a)anthracene	mg/Kg	9.7	23 U	2.8 U	29 U	31 U	52 U	1.1
Benzo(a)pyrene	mg/Kg	6.7	7.3 U	0.89 U	37.7	27.9	17 U	1.2
Benzo(b)fluoranthene	mg/Kg	ND	14 U	1.7 U	37.7	44.6	32 U	2.4
Benzo(ghi)perylene	mg/Kg	ND	12 U	1.5 U	36.2	23.9	27 U	1.2
Benzo(k)fluoranthene	mg/Kg	4.3	--	--	--	--	--	--
Benzoic acid	mg/Kg	ND	--	--	--	--	--	--
Benzyl alcohol	mg/Kg	ND	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	mg/Kg	ND	--	--	--	--	--	--
Bis(2-chloroethyl)ether	mg/Kg	ND	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	ND	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	1.5	29 U	3.6 U	37 U	65.5	188	0.43 U
Butyl benzyl phthalate	mg/Kg	ND	--	--	--	--	--	--
Carbazole	mg/Kg	--	--	--	--	--	--	0.22
Chrysene	mg/Kg	11	7.3 U	1.1	28	33.6	17 U	1.2
Dibenzo(a,h)anthracene	mg/Kg	ND	--	--	--	--		--
Dibenzofuran	mg/Kg	ND	--	--	--	--		1
Diethyl phthalate	mg/Kg	ND	--	--	--	--		--
Dimethyl phthalate	mg/Kg	ND	--	--	--	--		--
Di-n-butyl phthalate	mg/Kg	ND	29 U	3.6 U	37 U	40 U	67 U	0.17
Di-n-octyl phthalate	mg/Kg	ND	--	--	--	--	--	--
Fluoranthene	mg/Kg	12	6.4 U	3.95	31.5	487	15 U	2.1
Fluorene	mg/Kg	ND	5.6 U	0.68 U	7 U	7.6 U	13 U	1
Hexachlorobenzene	mg/Kg	ND	--	--	--	--	--	--
Hexachlorobutadiene	mg/Kg	ND	--	--	--	--	--	--
Hexachlorocyclopentadiene	mg/Kg	ND	--	--	--	--	--	--
Hexachloroethane	mg/Kg	ND	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	11 U	1.3 U	48.3	27.8	25 U	1.5
Isophorone	mg/Kg	ND	--	--	--	--	--	--
Naphthalene	mg/Kg	1.1	4.7 U	0.879	234	8.8	11 U	3.4
Nitrobenzene	mg/Kg	ND	--	--	--	--	--	--
N-Nitrosodiphenylamine	mg/Kg	ND	--	--	--	--	--	--
N-Nitrosodipropylamine	mg/Kg	ND	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	ND	--	--	--	--	--	--
Phenanthrene	mg/Kg	4.5	16 U	4.88	23.5	47.4	36 U	1.8
Phenol	mg/Kg	ND	4.4 U	0.53 U	5 U	6 U	10 U	0.43 U
Pyrene	mg/Kg	11	5.6 U	3.35	28.5	41.8	13 U	1.7
Polychlorinated Dioxins and Furans								
1,2,3,4,6,7,8-HpCDD	ug/Kg	0.459	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ug/Kg	28.8	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ug/Kg	0.79	--	--	--	--	--	--

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-21 01/03/02	SSW-SED-1 01/01/91	SSW-SED-2 01/01/91	SSW-SED-3 01/01/91	SSW-SED-4 01/01/91	SSW-SED-5 01/01/91	SSW-SED-6 01/01/91	
		Primary	Primary	Primary	Primary	Primary	Primary	Primary	
1,2,3,4,7,8-HxCDD	ug/Kg	0.0298	--	--	--	--	--	--	
1,2,3,4,7,8-HxCDF	ug/Kg	6.7	--	--	--	--	--	--	
1,2,3,6,7,8-HxCDD	ug/Kg	0.0724	--	--	--	--	--	--	
1,2,3,6,7,8-HxCDF	ug/Kg	1.17	--	--	--	--	--	--	
1,2,3,7,8,9-HxCDD	ug/Kg	0.0469	--	--	--	--	--	--	
1,2,3,7,8-PCDD	ug/Kg	0.0319	--	--	--	--	--	--	
1,2,3,7,8-PCDF	ug/Kg	0.154	--	--	--	--	--	--	
2,3,4,6,7,8-HxCDF	ug/Kg	0.64	--	--	--	--	--	--	
2,3,4,7,8-PCDF	ug/Kg	0.517	--	--	--	--	--	--	
2,3,7,8-TCDD	ug/Kg	0.0217	--	--	--	--	--	--	
2,3,7,8-TCDF	ug/Kg	0.414	--	--	--	--	--	--	
OCDD	ug/Kg	4.47	--	--	--	--	--	--	
OCDF	ug/Kg	44	--	--	--	--	--	--	
Total HpCDD	ug/Kg	ND	--	--	--	--	--	--	
Total HpCDF	ug/Kg	32.9	--	--	--	--	--	--	
Total HxCDD	ug/Kg	0.647	--	--	--	--	--	--	
Total HxCDF	ug/Kg	16.2	--	--	--	--	--	--	
Total PeCDD	ug/Kg	0.455	--	--	--	--	--	--	
Total PeCDF	ug/Kg	5.33	--	--	--	--	--	--	
Polychlorinated Biphenyls (Aroclors)									
Aroclor 1016	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1221	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1232	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1242	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1248	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1254	mg/Kg	ND	--	--	--	--	--	--	
Aroclor 1260	mg/Kg	ND	--	--	--	--	--	--	
Total PCBs	mg/Kg	ND	--	--	--	--	--	--	
Pesticides/Herbicides									
4,4'-DDD	mg/Kg	ND	--	--	--	--	--	--	
4,4'-DDE	mg/Kg	0.028	--	--	--	--	--	--	
4,4'-DDT	mg/Kg	ND	--	--	--	--	--	--	
Aldrin	mg/Kg	ND	--	--	--	--	--	--	
alpha-BHC	mg/Kg	ND	--	--	--	--	--	--	
alpha-Chlordane	mg/Kg	ND	--	--	--	--	--	--	
beta-BHC	mg/Kg	ND	--	--	--	--	--	--	
Chlordane	mg/Kg	ND	--	--	--	--	--	--	
delta-BHC	mg/Kg	ND	--	--	--	--	--	--	
Dieldrin	mg/Kg	ND	--	--	--	--	--	--	
Endosulfan I	mg/Kg	ND	--	--	--	--	--	--	
Endosulfan II	mg/Kg	ND	--	--	--	--	--	--	
Endosulfan sulfate	mg/Kg	ND	--	--	--	--	--	--	
Endrin	mg/Kg	ND	--	--	--	--	--	--	
Endrin aldehyde	mg/Kg	ND	--	--	--	--	--	--	
Endrin ketone	mg/Kg	ND	--	--	--	--	--	--	
gamma-Chlordane	mg/Kg	ND	--	--	--	--	--	--	
Heptachlor	mg/Kg	ND	--	--	--	--	--	--	
Heptachlor epoxide	mg/Kg	ND	--	--	--	--	--	--	
Lindane	mg/Kg	ND	--	--	--	--	--	--	
Methoxychlor	mg/Kg	ND	--	--	--	--	--	--	
Toxaphene	mg/Kg	ND	--	--	--	--	--	--	
Metals									
Aluminum	mg/Kg	11000	--	--	--	--	--	--	
Antimony	mg/Kg	68	0.1	0.04	0.13	0.091	0.12	0.0207	
Arsenic	mg/Kg	25	0.011	0.0036	U 0.014	0.02	0.021	0.0296	
Barium	mg/Kg	320	--	--	--	--	--	--	
Beryllium	mg/Kg	0.55	0.00078	0.00051	0.0014	0.0004	U 0.0015	0.0004	U

TABLE B-16
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - SOUTH DITCH (1991 - 2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SC-SED-21 01/03/02	SSW-SED-1 01/01/91	SSW-SED-2 01/01/91	SSW-SED-3 01/01/91	SSW-SED-4 01/01/91	SSW-SED-5 01/01/91	SSW-SED-6 01/01/91						
		Primary	Primary	Primary	Primary	Primary	Primary	Primary						
Cadmium	mg/Kg	2.6	0.0048	0.0045	0.0081	0.00081	U	0.012	0.00682					
Calcium	mg/Kg	6800	--	--	--	--		--	--					
Chromium	mg/Kg	2100	12.7	5.56	16.4	0.93		12.6	1.09					
Cobalt	mg/Kg	8.9	--	--	--	--		--	--					
Copper	mg/Kg	320	0.073	0.025	0.17	0.22		0.25	0.401					
Iron	mg/Kg	42000	--	--	--	--		--	--					
Lead	mg/Kg	3500	0.14	0.07	1.2	15.5		5.3	0.156					
Magnesium	mg/Kg	4800	--	--	--	--		--	--					
Manganese	mg/Kg	120	--	--	--	--		--	--					
Mercury	mg/Kg	0.47	0.0013	0.0012	0.0012	0.00098		0.0036	0.0245					
Nickel	mg/Kg	37	0.099	0.065	0.19	0.049		0.11	0.718					
Potassium	mg/Kg	820	--	--	--	--		--	--					
Selenium	mg/Kg	2.4	0.0015	U	0.0018	U	0.0059	U	0.002	U				
Silver	mg/Kg	0.9	0.0042		0.0051		0.006	U	0.0069	U	0.004	U		
Sodium	mg/Kg	570	--	--	--	--	--	--	--	--				
Thallium	mg/Kg	ND	0.0029	U	0.0036	U	0.0037	U	0.004	U	0.0069	U	0.004	U
Vanadium	mg/Kg	140	--	--	--	--	--	--	--	--	--	--		
Zinc	mg/Kg	570	0.29	0.17	0.64	0.12		1.85		0.298				
RCRA Characteristics and Indicators														
Corrosivity (pH)	SU	--	--	--	--	--	--	--	--	--	--	--		
Cyanide (Reactivity)	mg/Kg	--	0.0015	U	0.00386	0.00548	0.002	U	0.01033		0.0015			
Total Organic Carbon	mg/Kg	160000		--	--	--	--	--	--					

TABLE B-17
HISTORICAL ANALYTICAL RESULTS - SEDIMENT SAMPLES (1991)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	S-1 01/01/91 0 Primary	S-2 01/01/91 0 Primary		
Volatile Organics					
Benzene	mg/Kg	0.016	U	0.0584	
Chlorobenzene	mg/Kg	0.021	U	1.95	
Ethylbenzene	mg/Kg	0.026	U	0.095	U
Methylene chloride	mg/Kg	0.01	U	0.0611	
Toluene	mg/Kg	0.021	U	0.079	U
Semivolatile Organics					
1,2,4-Trichlorobenzene	mg/Kg	0.776		60.2	
1,2-Dichlorobenzene	mg/Kg	0.68	U	125	
1,3-Dichlorobenzene	mg/Kg	1.47		109	
1,4-Dichlorobenzene	mg/Kg	2.09		202	
2,4-Dimethylphenol	mg/Kg	0.96	U	3.5	U
Acenaphthene	mg/Kg	0.68	U	2.5	U
Anthracene	mg/Kg	0.68	U	2.5	U
Benzo(a)anthracene	mg/Kg	2.8	U	10	U
Benzo(a)pyrene	mg/Kg	0.89	U	3.3	U
Benzo(b)fluoranthene	mg/Kg	1.7	U	6.3	U
Benzo(ghi)perylene	mg/Kg	1.5	U	5.3	U
Bis(2-ethylhexyl)phthalate	mg/Kg	17.8		13	U
Chrysene	mg/Kg	0.89	U	3.3	U
Di-n-butyl phthalate	mg/Kg	8.6	U	13	U
Fluoranthene	mg/Kg	0.78	U	2.9	U
Fluorene	mg/Kg	0.68	U	2.5	U
Indeno(1,2,3-cd)pyrene	mg/Kg	1.3	U	4.8	U
Naphthalene	mg/Kg	0.57	U	2.1	U
Phenanthrene	mg/Kg	1.9	U	7	U
Phenol	mg/Kg	0.53	U	2	U
Pyrene	mg/Kg	0.68	U	2.5	U
Metals					
Antimony	mg/Kg	0.026		0.0079	U
Arsenic	mg/Kg	0.0052		0.0084	
Beryllium	mg/Kg	0.00036	U	0.00025	
Cadmium	mg/Kg	0.0021		0.0018	
Chromium	mg/Kg	3.44		0.1	
Copper	mg/Kg	0.04		0.066	
Lead	mg/Kg	0.051		0.39	
Mercury	mg/Kg	0.00083		0.00019	
Nickel	mg/Kg	0.014		0.024	
Selenium	mg/Kg	0.0018	U	0.00066	U
Silver	mg/Kg	0.0036	U	0.0013	U
Thallium	mg/Kg	0.0036	U	0.0013	U
Zinc	mg/Kg	0.098		0.738	
RCRA Characteristics and Indicators					
Cyanide (Reactivity)	mg/Kg	0.0018	U	0.00066	U

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SED-A1 08/29/96 0-1 Primary		SED-A2 08/29/96 0-1 Primary		SED-A3 08/29/96 0-1 Primary		SED-A4 08/29/96 0-1 Primary		SED-B1 08/29/96 0-1 Primary		SED-B2 08/29/96 0-1 Primary		SED-B3 08/29/96 0-1 Primary		SED-C1 08/29/96 0-1 Primary		TPS-A1-1 01/17/00 1 Primary		TPS-A1-5 01/19/00 5 Primary		TPS-A1-10 01/19/00 10 Primary		TPS-A2-1 01/17/00 1 Primary		TPS-A2-5 01/17/00 5 Primary		TPS-A2-10 01/19/00 10 Primary		TPS-A3-1 01/17/00 1 Primary			
Volatile Organics																																	
1,1,1-Trichloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1,1,2-Tetrachloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1,2,2-Tetrachloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1,2-Trichloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,1-Dichloro-1-propene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1-Dichloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,1-Dichloroethene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1-Methylethyl-benzene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2-Dibromoethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,2-Dibromoethane	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2-Dibromo-3-chloropropane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,2-Dichloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,2-Dichloroethene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2-Dichloropropane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,2,4-Trimethylbenzene	mg/Kg	0.0094	U	0.00451	J	0.0404		0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,3-Dichloropropane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
1,3,5-Trimethylbenzene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
2-Butanone	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Hexanone	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,2-Dichlororopropane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
4-Methyl-2-pentanone	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Acetone	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzene	mg/Kg	0.0094	U	0.012	U	0.00468	J	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	ND		ND		0.741		ND		ND		ND		ND		ND	
Bromobenzene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Bromochloromethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Bromodichloromethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Bromoform	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Bromomethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Butylbenzne	mg/Kg	0.0094	U	6.52	J	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Carbon disulfide	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Carbon tetrachloride	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Chlorobenzene	mg/Kg	0.0094	U	0.0336		0.0112	J	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	ND		ND		5.71		ND		ND		ND		ND		6.26	
Chloroethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--		--	
Chloroform	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--							

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SED-A1 08/29/96 0-1 Primary		SED-A2 08/29/96 0-1 Primary		SED-A3 08/29/96 0-1 Primary		SED-A4 08/29/96 0-1 Primary		SED-B1 08/29/96 0-1 Primary		SED-B2 08/29/96 0-1 Primary		SED-B3 08/29/96 0-1 Primary		SED-C1 08/29/96 0-1 Primary		TPS-A1-1 01/17/00 1 Primary		TPS-A1-5 01/19/00 5 Primary		TPS-A1-10 01/19/00 10 Primary		TPS-A2-1 01/17/00 1 Primary		TPS-A2-5 01/17/00 5 Primary		TPS-A2-10 01/19/00 10 Primary		TPS-A3-1 01/17/00 1 Primary	
p_Cymene	mg/Kg	0.0094	U	0.00791	J	0.0428		0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
sec-Butylbenzne	mg/Kg	0.0094	U	0.00184	J	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
Styrene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
tert-Butylbenzene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
Tetrachloroethene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	ND		ND		1.98		ND		ND		ND		ND	
Toluene	mg/Kg	0.0094	U	0.012	U	0.00764	J	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	ND		--		--		ND		--		--		ND	
trans-1,2-Dichloroethene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
trans-1,3-Dichloropropene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Trichloroethene	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
Trichlorofluoromethane	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
Vinyl chloride	mg/Kg	0.0094	U	0.012	U	0.014	U	0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
Xylene (total)	mg/Kg	--		--		--		--		--		--		--		--		ND		--		--		ND		--		--		ND	
Semivolatile Organics																															
1,2,3-Trichlorobenzene	mg/Kg	0.0094	U	0.0111	J	0.0187		0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	--		--		--		--		--		--		--	
1,2,4-Trichlorobenzene	mg/Kg	0.0094	U	0.0405		0.0611		0.0091	U	0.011	U	0.0076	U	0.007	U	0.0079	U	ND		1.1		0.183		ND		ND		43.2		ND	
1,2-Dichlorobenzene	mg/Kg	0.00419	J	0.16		0.164		0.00767	J	0.00478	J	0.00195	J	0.007	U	0.0079	U	ND		ND		13.4		ND		ND		766		0.64	
1,3-Dichlorobenzene	mg/Kg	0.0187		0.145		0.0696		0.0315		0.00445	J	0.00162	J	0.007	U	0.00911		ND		ND		29.7		ND		ND		103		0.38	
1,4-Dichlorobenzene	mg/Kg	0.0454		0.212		0.16		0.0791		0.0108	J	0.00373	J	0.00203	J	0.00617	J	ND		ND		26.4		ND		ND		759		0.42	
2,4,5-Trichlorophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4,6-Trichlorophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4-Dichlorophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4-Dimethylphenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4-Dinitrophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,4-Dinitrotoluene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,6-Dinitrotoluene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Chloronaphthalene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Chlorophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Methylnaphthalene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		ND		ND		0.58		ND	
2-Methylphenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Nitroaniline	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2-Nitrophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
3-Nitroaniline	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4,6-Dinitro-2-methylphenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Bromophenylphenyl ether	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chloroaniline	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chlorophenyl phenyl ether	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Chloro-3-methylphenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Methylphenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Nitroaniline	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
4-Nitrophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Acenaphthene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		0.25	J
Acenaphthylene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		2.22	
Anthracene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		ND	
Azobenzene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		0.16	J	ND		ND		4.85	
Benzo(a)anthracene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Benzo(a)pyrene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		0.66		ND		ND		15	
Benzo(b)fluoranthene	mg/Kg	--		--		--		--		--		--		--		--		0.77	J	ND		ND		0.54		ND		ND		13.2	
Benzo(ghi)perylene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		0.72		ND		ND		16.3	
Benzo(k)fluoranthene	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		0.4		ND		ND		4.5	
Benzoic acid	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		0.28		ND		ND		6.65	
Benzyl alcohol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Bis(2-chloroethoxy)methane	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Bis(2-chloroethyl)ether	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Bis(2-chloroisopropyl)ether	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Bis(2-ethylhexyl)phthalate	mg/Kg	--		--		--		--		--		--		--		--		ND		ND		ND		ND		ND		ND		5.01	

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SED-A1 08/29/96 0-1 Primary	SED-A2 08/29/96 0-1 Primary	SED-A3 08/29/96 0-1 Primary	SED-A4 08/29/96 0-1 Primary	SED-B1 08/29/96 0-1 Primary	SED-B2 08/29/96 0-1 Primary	SED-B3 08/29/96 0-1 Primary	SED-C1 08/29/96 0-1 Primary	TPS-A1-1 01/17/00 1 Primary	TPS-A1-5 01/19/00 5 Primary	TPS-A1-10 01/19/00 10 Primary	TPS-A2-1 01/17/00 1 Primary	TPS-A2-5 01/17/00 5 Primary	TPS-A2-10 01/19/00 10 Primary	TPS-A3-1 01/17/00 1 Primary
Butyl benzyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	0.53	ND	ND	11.2
Dibenzo(a,h)anthracene	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	1.77
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	--	--	--	--	--	--	--	--	1.01	ND	ND	1.14	ND	ND	41.2
Fluorene	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	0.61
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	mg/Kg	0.0094	U	--	--	0.0091	U	0.011	U	0.0076	U	0.007	U	--	--	--
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	0.36	ND	ND	4.91
Isophorone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	0.00258	J	0.0335	0.367	0.00462	J	0.00357	J	0.00688	J	0.00744	J	ND	200	0.323
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodipropylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	0.44	ND	ND	4.32
Phenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	--	--	--	--	--	--	--	--	1.01	ND	ND	0.97	ND	ND	26.9
Polychlorinated Dioxins and Furans																
1,2,3,4,6,7,8-HpCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
2,3,7,8-TCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																
Aroclor 1016	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	SED-A1 08/29/96 0-1 Primary	SED-A2 08/29/96 0-1 Primary	SED-A3 08/29/96 0-1 Primary	SED-A4 08/29/96 0-1 Primary	SED-B1 08/29/96 0-1 Primary	SED-B2 08/29/96 0-1 Primary	SED-B3 08/29/96 0-1 Primary	SED-C1 08/29/96 0-1 Primary	TPS-A1-1 01/17/00 1 Primary	TPS-A1-5 01/19/00 5 Primary	TPS-A1-10 01/19/00 10 Primary	TPS-A2-1 01/17/00 1 Primary	TPS-A2-5 01/17/00 5 Primary	TPS-A2-10 01/19/00 10 Primary	TPS-A3-1 01/17/00 1 Primary
Aroclor 1260	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4'-DDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan I	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lindane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/Kg	--	--	--	--	--	--	--	--	19.5	0.443	1.97	8.8	76.4	1.9	31.4
Barium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/Kg	--	--	--	--	--	--	--	--	0.3	ND	ND	ND	ND	ND	0.6
Cadmium	mg/Kg	--	--	--	--	--	--	--	--	0.9	ND	ND	0.6	1.6	ND	2.4
Calcium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/Kg	--	--	--	--	--	--	--	--	3207	9.5	24.7	3197	930	38.7	1280
Chromium (Hexavalent)	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	73.1	3.81	ND
Cobalt	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/Kg	--	--	--	--	--	--	--	--	45.4	29.9	6.48	17.4	199	10.7	150
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/Kg	--	--	--	--	--	--	--	--	131	2.84	ND	81.4	236	3.9	178
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/Kg	--	--	--	--	--	--	--	--	0.4	ND	ND	0.2	1.3	ND	4.4
Nickel	mg/Kg	--	--	--	--	--	--	--	--	208	2.68	5.34	173	107	8.8	68.4
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	1.7
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/Kg	--	--	--	--	--	--	--	--	ND	ND	0.091	ND	ND	0.2	ND
Vanadium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/Kg	--	--	--	--	--	--	--	--	288	15.8	10	193	411	21.1	362
RCRA Characteristics and Indicators																
Corrosivity (pH)	S.U.	6.88	6.63	6.2	7	7.52	7.5	7.59	4.46	--	--	--	--	--	--	--
Total Organic Carbon	mg/Kg	33600	56650	59750	29850	33450	24550	22050	48050	20000	61000	1800	25000	4900	4300	22000

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-A3-5 01/17/00 5 Primary	TPS-A3-10 01/19/00 10 Primary	TPS-B1-1 01/17/00 1 Primary	TPS-B1-5 01/17/00 5 Primary	TPS-B1-10 01/18/00 10 Primary	TPS-B2-1 01/18/00 1 Primary	TPS-B2-5 01/18/00 5 Primary	TPS-B2-10 01/18/00 10 Primary	TPS-B3-1 01/17/00 1 Primary	TPS-B3-5 01/17/00 5 Primary	TPS-B3-10 01/19/00 10 Primary	TPS-C1-1 01/17/00 1 Primary	TPS-C1-5 01/17/00 5 Primary	TPS-C1-10 01/19/00 10 Primary	TPS-C2-1 01/18/00 1 Primary
Volatile Organics																
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloro-1-propene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylethyl-benzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichlororopane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	mg/Kg	ND	ND	ND	--	--	ND	--	--	ND	--	--	ND	--	--	ND
Bromobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzne	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND	0.69	J	ND	ND	--	--	--
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cumene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	--	--	ND	--	--	ND	--	--	ND	--	--	ND	--	--	ND
m - and p-Xylenes	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyltert-butylether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Propylbenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Chlorotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p_Chlorotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-A3-5 01/17/00 5 Primary	TPS-A3-10 01/19/00 10 Primary	TPS-B1-1 01/17/00 1 Primary	TPS-B1-5 01/17/00 5 Primary	TPS-B1-10 01/18/00 10 Primary	TPS-B2-1 01/18/00 1 Primary	TPS-B2-5 01/18/00 5 Primary	TPS-B2-10 01/18/00 10 Primary	TPS-B3-1 01/17/00 1 Primary	TPS-B3-5 01/17/00 5 Primary	TPS-B3-10 01/19/00 10 Primary	TPS-C1-1 01/17/00 1 Primary	TPS-C1-5 01/17/00 5 Primary	TPS-C1-10 01/19/00 10 Primary	TPS-C2-1 01/18/00 1 Primary
p_Cymene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzne	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	mg/Kg	ND	ND	ND	--	--	ND	--	--	ND	--	--	ND	--	--	ND
Toluene	mg/Kg	--	--	ND	ND	0.22	J	ND	ND	0.38	J	ND	ND	--	--	ND
trans-1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene (total)	mg/Kg	--	--	ND	--	--	ND	--	--	ND	--	--	ND	--	--	ND
Semivolatile Organics																
1,2,3-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	ND	2.97	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	mg/Kg	ND	2.23	ND	ND	ND	ND	ND	0.29	ND	ND	ND	--	--	--	--
1,3-Dichlorobenzene	mg/Kg	ND	0.84	ND	ND	ND	ND	ND	0.22	J	ND	ND	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	ND	0.86	ND	ND	ND	ND	ND	0.47	ND	ND	ND	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	4.8	0.35	J	ND	ND	4.4	J	ND
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenylphenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	1.1	0.75	ND	ND	11.7	ND	ND	15.4
Acenaphthylene	mg/Kg	0.33	J	ND	ND	ND	ND	ND	ND	0.82	ND	ND	50.4	0.4	ND	39.8
Anthracene	mg/Kg	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	ND	--	--	--	--
Azobenzene	mg/Kg	0.3	ND	ND	ND	ND	ND	ND	ND	1.98	ND	ND	75.2	0.4	ND	127
Benzo(a)anthracene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	mg/Kg	1.06	ND	0.76	ND	ND	0.66	ND	ND	4.31	ND	ND	304	1.4	ND	260
Benzo(b)fluoranthene	mg/Kg	1.1	ND	1.07	ND	ND	0.61	ND	ND	2.79	ND	ND	281	2	ND	217
Benzo(ghi)perylene	mg/Kg	1.07	ND	2.67	ND	ND	1.14	ND	ND	2.76	ND	ND	391	2.3	ND	310
Benzo(k)fluoranthene	mg/Kg	0.67	ND	0.63	ND	ND	0.22	J	ND	ND	1.36	ND	219	1.5	ND	99.4
Benzoic acid	mg/Kg	0.33	J	ND	1.93	ND	0.63	ND	ND	1.13	ND	ND	130	0.9	ND	114
Benzyl alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	ND	ND	0.33	J	ND	0.51	0.96	ND	ND	0.78	ND	ND	ND	0.4	ND

TABLE B-18 HISTORICAL ANALYTICAL RESULTS SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002) STANDARD CHLORINE SITE KEARNY, NEW JERSEY																																	
Constituent of Interest	Units	TPS-A3-5 01/17/00 5 Primary		TPS-A3-10 01/19/00 10 Primary		TPS-B1-1 01/17/00 1 Primary		TPS-B1-5 01/17/00 5 Primary		TPS-B1-10 01/18/00 10 Primary		TPS-B2-1 01/18/00 1 Primary		TPS-B2-5 01/18/00 5 Primary		TPS-B2-10 01/18/00 10 Primary		TPS-B3-1 01/17/00 1 Primary		TPS-B3-5 01/17/00 5 Primary		TPS-B3-10 01/19/00 10 Primary		TPS-C1-1 01/17/00 1 Primary		TPS-C1-5 01/17/00 5 Primary		TPS-C1-10 01/19/00 10 Primary		TPS-C2-1 01/18/00 1 Primary			
Butyl benzyl phthalate	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Carbazole	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		27.1		ND		ND		32.9			
Chrysene	mg/Kg	0.56		ND		0.6		ND		ND		0.34		ND		ND		2.97		ND		ND		259		0.8		ND		200			
Dibenzo(a,h)anthracene	mg/Kg	ND		ND		ND	U	ND		ND		ND		ND		ND		0.88		ND		ND		61.2		0.5		ND		37.8			
Dibenzofuran	mg/Kg	ND		ND		ND	U	ND		ND		ND		ND		0.68		ND		ND		ND		18.7		ND		ND		20.8			
Diethyl phthalate	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Dimethyl phthalate	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Di-n-butyl phthalate	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		ND		0.2	J	ND		ND			
Di-n-octyl phthalate	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Fluoranthene	mg/Kg	1.29		ND		1.28	J	ND		ND		0.79		ND		ND		4.41		ND		ND		740		2.2		ND		733			
Fluorene	mg/Kg	ND		ND		ND		ND		ND		ND		ND		0.28		0.51		ND		ND		37.5		ND		ND		45.7			
Hexachlorobenzene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Hexachlorobutadiene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Hexachlorocyclopentadiene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Hexachloroethane	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Indeno(1,2,3-cd)pyrene	mg/Kg	0.55		ND		0.44	J	ND		ND		0.21	J	ND		ND		1.38		ND		ND		190		1.3		ND		94.4			
Isophorone	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Naphthalene	mg/Kg	0.34	J	0.29		4570		26.3		ND		0.73		ND		2.57		3.94		0.13		ND		28.3		0.4		ND		21.1			
Nitrobenzene	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
N-Nitrosodiphenylamine	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
N-Nitrosodipropylamine	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Pentachlorophenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Phenanthrene	mg/Kg	0.85		ND		0.49	J	ND		ND		ND		ND		0.19	J	2.25		ND		ND		414		1		ND		521			
Phenol	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Pyrene	mg/Kg	1.81		ND		0.89		ND		ND		0.56		ND		ND		5.26		ND		ND		581		2.8		ND		503			
Polychlorinated Dioxins and Furans																																	
1,2,3,4,6,7,8-HpCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,4,6,7,8-HpCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,4,7,8,9-HpCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,4,7,8-HxCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,4,7,8-HxCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,6,7,8-HxCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,6,7,8-HxCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8,9-HxCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
1,2,3,7,8-PCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,3,4,6,7,8-HxCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,3,4,7,8-PCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
2,3,7,8-TCDD	mg/Kg	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,3,7,8-TCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
OCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
OCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total HpCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total HpCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total HxCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total HxCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total PeCDD	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Total PeCDF	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
PCBs																																	
Aroclor 1016	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Aroclor 1221	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Aroclor 1232	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Aroclor 1242	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Aroclor 1248	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	
Aroclor 1254	mg/Kg	--		--		--		--		--		--		--		--		--		--		--		--		--		--		--		--	

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-A3-5 01/17/00 5 Primary	TPS-A3-10 01/19/00 10 Primary	TPS-B1-1 01/17/00 1 Primary	TPS-B1-5 01/17/00 5 Primary	TPS-B1-10 01/18/00 10 Primary	TPS-B2-1 01/18/00 1 Primary	TPS-B2-5 01/18/00 5 Primary	TPS-B2-10 01/18/00 10 Primary	TPS-B3-1 01/17/00 1 Primary	TPS-B3-5 01/17/00 5 Primary	TPS-B3-10 01/19/00 10 Primary	TPS-C1-1 01/17/00 1 Primary	TPS-C1-5 01/17/00 5 Primary	TPS-C1-10 01/19/00 10 Primary	TPS-C2-1 01/18/00 1 Primary
Aroclor 1260	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4'-DDD	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan I	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan II	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lindane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Aluminum	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/Kg	112	2.03	7.91	6.21	0.28	38.9	0.78	1.38	105	2.06	2.6	15.1	14.6	0.75	10.5
Barium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/Kg	0.8	0.404	2	ND	ND	0.62	0.43	ND	0.869	ND	0.609	ND	ND	0.32	0.5
Cadmium	mg/Kg	1.5	ND	1.27	ND	ND	1.3	ND	ND	2.21	ND	0.259	1.3	ND	ND	3.3
Calcium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/Kg	257	14.3	1079	143	6.59	5240	34.2	12.8	376	27	43	11700	14400	14.8	2790
Chromium (Hexavalent)	mg/Kg	4.29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22.1	ND	ND	ND
Cobalt	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/Kg	317	13.8	37	ND	1.44	110	4.78	15	295	7.34	20.7	50.7	12.4	9.78	115
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/Kg	339	11.7	51.6	ND	3.46	192	7.84	4.27	337	5.63	11.8	119	25.6	5.34	118
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/Kg	6.4	ND	0.098	0.159	0.03	6.5	0.1	ND	2.47	0.032	ND	1.2	2.2	ND	2.9
Nickel	mg/Kg	62.3	22	50.6	8.07	2.49	308	7.3	2.06	64.5	7.72	39.8	241	138	12.2	72.1
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/Kg	2.2	ND	ND	ND	ND	0.86	ND	ND	2.31	ND	ND	ND	ND	ND	0.6
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/Kg	ND	0.104	ND	ND	ND	0.29	ND	ND	0.42	ND	0.093	ND	ND	ND	0.2
Vanadium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/Kg	388	55	162	37.6	3.84	420	11.7	3.6	499	18.4	72.3	343	114	31.1	300
RCRA Characteristics and Indicators																
Corrosivity (pH)	S.U.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	mg/Kg	19000	2300	58000	71000	45000	11000	18000	ND	18000	1400	3100	59000	49000	1000	40000

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-C2-5 01/18/00 5 Primary	TPS-C2-10 01/19/00 10 Primary	TPS-C3-1 01/18/00 1 Primary	TPS-C3-5 01/18/00 5 Primary	TPS-C3-10 01/19/00 10 Primary	SC-SED-01 01/02/02 Primary	SC-SED-02 01/02/02 Primary	SC-SED-03 01/02/02 Primary
Volatile Organics									
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,1,1,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,1-Dichloro-1-propene	mg/Kg	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,1-Dichloroethene	mg/Kg	--	--	--	--	--	ND	ND	ND
1-Methylethyl-benzene	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2-Dibromoethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2-Dibromoethane	mg/Kg	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	mg/Kg	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2-Dichloroethene	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2,4-Trimethylbenzene	mg/Kg	--	--	--	--	--	--	--	--
1,3-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/Kg	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Hexanone	mg/Kg	--	--	--	--	--	ND	ND	ND
2,2-Dichlororopane	mg/Kg	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone	mg/Kg	--	--	--	--	--	ND	ND	ND
Acetone	mg/Kg	--	--	--	--	--	ND	ND	ND
Benzene	mg/Kg	--	--	ND	--	--	ND	ND	ND
Bromobenzene	mg/Kg	--	--	--	--	--	--	--	--
Bromochloromethane	mg/Kg	--	--	--	--	--	--	--	--
Bromodichloromethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Bromoform	mg/Kg	--	--	--	--	--	ND	ND	ND
Bromomethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Butylbenzne	mg/Kg	--	--	--	--	--	--	--	--
Carbon disulfide	mg/Kg	--	--	--	--	--	ND	ND	ND
Carbon tetrachloride	mg/Kg	--	--	--	--	--	ND	ND	ND
Chlorobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
Chloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Chloroform	mg/Kg	--	--	--	--	--	ND	ND	ND
Chloromethane	mg/Kg	--	--	--	--	--	ND	ND	ND
cis-1,2-Dichloroethene	mg/Kg	--	--	--	--	--	ND	ND	ND
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	ND	ND	ND
Cumene	mg/Kg	--	--	--	--	--	--	--	--
Cyclohexane	mg/Kg	--	--	--	--	--	ND	ND	ND
Dibromochloropropane	mg/Kg	--	--	--	--	--	ND	ND	ND
Dibromochloromethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Dichlorodifluoromethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Dibromomethane	mg/Kg	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	--	--	ND	--	--	ND	ND	ND
m - and p-Xylenes	mg/Kg	--	--	--	--	--	--	--	--
Methyl Acetate	mg/Kg	--	--	--	--	--	ND	ND	ND
Methylcyclohexane	mg/Kg	--	--	--	--	--	ND	ND	ND
Methylene chloride	mg/Kg	--	--	--	--	--	ND	ND	ND
Methyltert-butylether	mg/Kg	--	--	--	--	--	ND	ND	ND
n-Propylbenzene	mg/Kg	--	--	--	--	--	--	--	--
o-Chlorotoluene	mg/Kg	--	--	--	--	--	--	--	--
o-Xylene	mg/Kg	--	--	--	--	--	--	--	--
p_Chlorotoluene	mg/Kg	--	--	--	--	--	--	--	--

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-C2-5 01/18/00 5 Primary	TPS-C2-10 01/19/00 10 Primary	TPS-C3-1 01/18/00 1 Primary	TPS-C3-5 01/18/00 5 Primary	TPS-C3-10 01/19/00 10 Primary	SC-SED-01 01/02/02 Primary	SC-SED-02 01/02/02 Primary	SC-SED-03 01/02/02 Primary
p_Cymene	mg/Kg	--	--	--	--	--	--	--	--
sec-Butylbenzne	mg/Kg	--	--	--	--	--	--	--	--
Styrene	mg/Kg	--	--	--	--	--	ND	ND	ND
tert-Butylbenzene	mg/Kg	--	--	--	--	--	--	--	--
Tetrachloroethene	mg/Kg	--	--	ND	--	--	ND	ND	ND
Toluene	mg/Kg	--	--	ND	--	--	ND	ND	ND
trans-1,2-Dichloroethene	mg/Kg	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	ND	ND	ND
Trichloroethene	mg/Kg	--	--	--	--	--	--	--	--
Trichlorofluoromethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Vinyl chloride	mg/Kg	--	--	--	--	--	ND	ND	ND
Xylene (total)	mg/Kg	--	--	ND	--	--	ND	ND	ND
Semivolatile Organics									
1,2,3-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
1,3-Dichlorobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	0.19	J 0.56	J 0.59
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	ND	ND	ND
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Chlorophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Methylnaphthalene	mg/Kg	ND	ND	ND	ND	ND	1.9	0.49	J 0.55
2-Methylphenol	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Nitroaniline	mg/Kg	--	--	--	--	--	ND	ND	ND
2-Nitrophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
3-Nitroaniline	mg/Kg	--	--	--	--	--	ND	ND	ND
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Bromophenylphenyl ether	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Chloroaniline	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Methylphenol	mg/Kg	--	--	--	--	--	0.27	J ND	ND
4-Nitroaniline	mg/Kg	--	--	--	--	--	ND	ND	ND
4-Nitrophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
Acenaphthene	mg/Kg	ND	ND	ND	ND	ND	5.6	1.2	J 2.3
Acenaphthylene	mg/Kg	ND	ND	ND	ND	ND	10	2.5	5.7
Anthracene	mg/Kg	--	--	--	--	--	--	--	--
Azobenzene	mg/Kg	0.2	ND	0.35	ND	ND	23	4.6	7.4
Benzo(a)anthracene	mg/Kg	--	--	--	--	--	ND	ND	ND
Benzo(a)pyrene	mg/Kg	0.9	ND	1.66	0.2	ND	61	11	17
Benzo(b)fluoranthene	mg/Kg	0.5	ND	1.76	0.1	ND	63	10	15
Benzo(ghi)perylene	mg/Kg	0.8	ND	2.56	0.2	ND	74	13	20
Benzo(k)fluoranthene	mg/Kg	0.3	ND	0.75	ND	ND	41	6.6	7.7
Benzoic acid	mg/Kg	0.4	ND	1.08	ND	ND	27	5.2	5.7
Benzyl alcohol	mg/Kg	--	--	--	--	--	ND	ND	ND
Bis(2-chloroethoxy)methane	mg/Kg	--	--	--	--	--	ND	ND	ND
Bis(2-chloroethyl)ether	mg/Kg	--	--	--	--	--	ND	ND	ND
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	ND	ND	ND
Bis(2-ethylhexyl)phthalate	mg/Kg	ND	ND	7.04	ND	ND	4.7	ND	ND

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-C2-5 01/18/00 5 Primary	TPS-C2-10 01/19/00 10 Primary	TPS-C3-1 01/18/00 1 Primary	TPS-C3-5 01/18/00 5 Primary	TPS-C3-10 01/19/00 10 Primary	SC-SED-01 01/02/02 Primary	SC-SED-02 01/02/02 Primary	SC-SED-03 01/02/02 Primary
Butyl benzyl phthalate	mg/Kg	--	--	--	--	--	ND	ND	ND
Carbazole	mg/Kg	ND	ND	ND	ND	ND	--	--	--
Chrysene	mg/Kg	0.4	ND	1.61	0.1	ND	60	11	15
Dibenzo(a,h)anthracene	mg/Kg	ND	ND	0.23	ND	ND	2.3	0.71 J	0.92 J
Dibenzofuran	mg/Kg	ND	ND	ND	ND	ND	6	1.1 J	1.6
Diethyl phthalate	mg/Kg	--	--	--	--	--	0.21	ND	1
Dimethyl phthalate	mg/Kg	--	--	--	--	--	ND	ND	ND
Di-n-butyl phthalate	mg/Kg	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	ND	ND	ND
Fluoranthene	mg/Kg	1.4	ND	3.61	ND	ND	97	20	31
Fluorene	mg/Kg	ND	ND	ND	ND	ND	8.3	1.6	2.5
Hexachlorobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
Hexachlorobutadiene	mg/Kg	--	--	--	--	--	ND	ND	ND
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	ND	ND	ND
Hexachloroethane	mg/Kg	--	--	--	--	--	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/Kg	0.3	ND	0.75	ND	ND	43	7.2	9
Isophorone	mg/Kg	--	--	--	--	--	ND	ND	ND
Naphthalene	mg/Kg	ND	ND	ND	ND	ND	7.1	2.8	3.6
Nitrobenzene	mg/Kg	--	--	--	--	--	ND	ND	ND
N-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	ND	ND	ND
N-Nitrosodipropylamine	mg/Kg	--	--	--	--	--	ND	ND	ND
Pentachlorophenol	mg/Kg	--	--	--	--	--	ND	ND	ND
Phenanthrene	mg/Kg	0.4	ND	1.02	ND	ND	63	11	15
Phenol	mg/Kg	--	--	--	--	--	0.35 J	ND	ND
Pyrene	mg/Kg	1.4	ND	2.96	0.4	ND	83	17	24
Polychlorinated Dioxins and Furans									
1,2,3,4,6,7,8-HpCDD	mg/Kg	--	--	--	--	--	0.102	0.218	0.244
1,2,3,4,6,7,8-HpCDF	mg/Kg	--	--	--	--	--	0.881	1.86	1.6
1,2,3,4,7,8,9-HpCDF	mg/Kg	--	--	--	--	--	0.0243	0.0621	0.052
1,2,3,4,7,8-HxCDD	mg/Kg	--	--	--	--	--	0.00468	0.00462	0.00871
1,2,3,4,7,8-HxCDF	mg/Kg	--	--	--	--	--	0.236	0.525	0.548
1,2,3,6,7,8-HxCDD	mg/Kg	--	--	--	--	--	0.00984	0.0185	0.0249
1,2,3,6,7,8-HxCDF	mg/Kg	--	--	--	--	--	0.042	0.0762	0.08
1,2,3,7,8,9-HxCDD	mg/Kg	--	--	--	--	--	0.00827	0.0139	0.0153
1,2,3,7,8-PCDD	mg/Kg	--	--	--	--	--	0.00631	0.00802	0.00958
1,2,3,7,8-PCDF	mg/Kg	--	--	--	--	--	0.0101	0.013	0.0144
2,3,4,6,7,8-HxCDF	mg/Kg	--	--	--	--	--	0.0173	0.0446	0.0413
2,3,4,7,8-PCDF	mg/Kg	--	--	--	--	--	0.0284	0.0602	0.06
2,3,7,8-TCDD	mg/Kg	ND	ND	ND	ND	ND	0.0398	0.0961	0.0898
2,3,7,8-TCDF	mg/Kg	--	--	--	--	--	0.0559	0.0937	0.101
OCDD	mg/Kg	--	--	--	--	--	1.43	2.82	2.7
OCDF	mg/Kg	--	--	--	--	--	1.06	2.95	2.67
Total HpCDD	mg/Kg	--	--	--	--	--	0.0243	0.59	0.612
Total HpCDF	mg/Kg	--	--	--	--	--	1.03	2.14	1.98
Total HxCDD	mg/Kg	--	--	--	--	--	0.107	0.152	0.22
Total HxCDF	mg/Kg	--	--	--	--	--	0.623	1.03	1.16
Total PeCDD	mg/Kg	--	--	--	--	--	0.0255	0.0482	0.0533
Total PeCDF	mg/Kg	--	--	--	--	--	0.233	0.544	0.575
PCBs									
Aroclor 1016	mg/Kg	--	--	--	--	--	ND	ND	ND
Aroclor 1221	mg/Kg	--	--	--	--	--	ND	ND	ND
Aroclor 1232	mg/Kg	--	--	--	--	--	ND	ND	ND
Aroclor 1242	mg/Kg	--	--	--	--	--	ND	ND	ND
Aroclor 1248	mg/Kg	--	--	--	--	--	ND	ND	ND
Aroclor 1254	mg/Kg	--	--	--	--	--	ND	ND	ND

TABLE B-18
HISTORICAL ANALYTICAL RESULTS
SEDIMENT SAMPLES - HACKENSACK RIVER (1996-2002)
STANDARD CHLORINE SITE
KEARNY, NEW JERSEY

Constituent of Interest	Units	TPS-C2-5 01/18/00 5 Primary	TPS-C2-10 01/19/00 10 Primary	TPS-C3-1 01/18/00 1 Primary	TPS-C3-5 01/18/00 5 Primary	TPS-C3-10 01/19/00 10 Primary	SC-SED-01 01/02/02 Primary	SC-SED-02 01/02/02 Primary	SC-SED-03 01/02/02 Primary
Aroclor 1260	mg/Kg	--	--	--	--	--	ND	ND	ND
Total PCBs	mg/Kg	--	--	--	--	--	--	--	--
Pesticides									
4,4'-DDD	mg/Kg	--	--	--	--	--	ND	ND	ND
4,4'-DDE	mg/Kg	--	--	--	--	--	ND	ND	ND
4,4'-DDT	mg/Kg	--	--	--	--	--	ND	ND	ND
Aldrin	mg/Kg	--	--	--	--	--	ND	ND	ND
alpha-BHC	mg/Kg	--	--	--	--	--	ND	ND	ND
alpha-Chlordane	mg/Kg	--	--	--	--	--	ND	ND	ND
beta-BHC	mg/Kg	--	--	--	--	--	ND	ND	ND
Chlordane	mg/Kg	--	--	--	--	--	ND	ND	ND
delta-BHC	mg/Kg	--	--	--	--	--	ND	ND	ND
Dieldrin	mg/Kg	--	--	--	--	--	ND	ND	ND
Endosulfan I	mg/Kg	--	--	--	--	--	ND	ND	ND
Endosulfan II	mg/Kg	--	--	--	--	--	ND	ND	ND
Endosulfan sulfate	mg/Kg	--	--	--	--	--	ND	ND	ND
Endrin	mg/Kg	--	--	--	--	--	ND	ND	ND
Endrin aldehyde	mg/Kg	--	--	--	--	--	ND	ND	ND
Endrin ketone	mg/Kg	--	--	--	--	--	ND	ND	ND
gamma-Chlordane	mg/Kg	--	--	--	--	--	ND	ND	ND
Heptachlor	mg/Kg	--	--	--	--	--	ND	ND	ND
Heptachlor epoxide	mg/Kg	--	--	--	--	--	ND	ND	ND
Lindane	mg/Kg	--	--	--	--	--	ND	ND	ND
Methoxychlor	mg/Kg	--	--	--	--	--	ND	ND	ND
Toxaphene	mg/Kg	--	--	--	--	--	ND	ND	ND
Metals									
Aluminum	mg/Kg	--	--	--	--	--	8900	12000	11000
Antimony	mg/Kg	--	--	--	--	--	3.8	3.3	2.7
Arsenic	mg/Kg	0.6	2.36	13.5	0.5	0.75	20	12	12
Barium	mg/Kg	--	--	--	--	--	93	78	77
Beryllium	mg/Kg	ND	0.4	0.3	ND	0.32	0.59	0.77	0.73
Cadmium	mg/Kg	ND	ND	1.9	ND	ND	1.7	1.4	1.1
Calcium	mg/Kg	--	--	--	--	--	3400	6400	5800
Chromium	mg/Kg	51.3	25.5	4580	53	14.8	570	510	410
Chromium (Hexavalent)	mg/Kg	ND	ND	ND	ND	ND	--	--	--
Cobalt	mg/Kg	--	--	--	--	--	9.4	62	11
Copper	mg/Kg	5.2	20.9	67.2	11.5	9.79	100	460	89
Iron	mg/Kg	--	--	--	--	--	21000	160000	29000
Lead	mg/Kg	3.1	7.52	100	2.7	5.34	160	540	97
Magnesium	mg/Kg	--	--	--	--	--	5100	600	7800
Manganese	mg/Kg	--	--	--	--	--	260	3300	440
Mercury	mg/Kg	0.1	ND	1.7	0.3	ND	1.7	200	0.59
Nickel	mg/Kg	2.2	15.3	94.1	2.1	12.2	31	8.8	34
Potassium	mg/Kg	--	--	--	--	--	1600	180	2100
Selenium	mg/Kg	--	--	--	--	--	0.77	ND	0.74
Silver	mg/Kg	ND	ND	0.6	ND	ND	1.3	8.1	1.7
Sodium	mg/Kg	--	--	--	--	--	4300	5000	8200
Thallium	mg/Kg	ND	ND	0.2	ND	ND	ND	ND	ND
Vanadium	mg/Kg	--	--	--	--	--	36	250	36
Zinc	mg/Kg	8.3	39	224	94.2	31.3	210	1100	190
RCRA Characteristics and Indicators									
Corrosivity (pH)	S.U.	--	--	--	--	--	--	--	--
Total Organic Carbon	mg/Kg	49000	890	17000	23000	450	39000	53000	39000

**SCSR ADDENDUM
(MARCH 28, 2014)**

**SITE CHARACTERIZATION SUMMARY REPORT
ADDENDUM**

**STANDARD CHLORINE CHEMICAL CO. INC.
SUPERFUND SITE
KEARNY, NEW JERSEY**

Prepared for:

**Performing Parties Group
(Beazer East, Inc., Cooper Industries, LLC, Tierra Solutions, Inc. on behalf of
Occidental Chemical Corporation, and Apogent Transition Corporation)**

Prepared by:

Key Environmental, Inc.
200 Third Avenue
Carnegie, Pennsylvania 15106

MARCH 2014

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ACROYNYS

Agreement	Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Focused Feasibility Study
AST	Above-ground Storage Tank
BHHRA	Baseline Human Health Risk Assessment
CSM	Conceptual Site Model
DNAPL	Dense Non-Aqueous Phase Liquid
Group	Performing Parties Group
HCTS	Hydraulic Control Treatment System
IDW	Investigation Derived Waste
IRM	Interim Remedial Measure
KEY	Key Environmental, Inc.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
ORP	Oxidation Reduction Potential
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated biphenyls
PCDD/PCDF	Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
PDM	Processed Dredge Material
PID	Photoionization Detector
QA	Quality Assurance
QC	Quality Control
RI/FFS	Remedial Investigation/Focused Feasibility Study
RPD	Relative Percent Difference
RSL	Regional Screening Level
SCCC	Standard Chlorine Chemical Co. Inc.
SCSR	Site Characterization Summary Report
SCSRA	Site Characterization Summary Report Addendum
SOP	Standard Operating Procedures
SOW	Statement of Work
SVOC	Semi-volatile Organic Compounds
TCDD	Tetrachlorodibenzo-p-dioxin
TCL	Target Compound List
TEQ	Toxicity Equivalency Quotient
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

This Site Characterization Summary Report Addendum (SCSRA) for the Standard Chlorine Chemical Co. Inc. (SCCC) Site (Site) located in Kearny, New Jersey has been prepared by Key Environmental, Inc. (KEY), on behalf of the Performing Parties Group (“Group”). The Group is comprised of Beazer East, Inc., Cooper Industries, LLC, Tierra Solutions, Inc., on behalf of Occidental Chemical Corporation, and Apogent Transition Corporation. The Site location is shown on Figure 1. The purpose of this SCSRA is to present supplemental site characterization data that were collected to address the data needs for the Site as identified in the original Site Characterization Summary Report (SCSR). These data, along with data acquired during previous Site investigations will be more fully evaluated in the Remedial Investigation Report and associated risk assessments.

The SCSR was finalized and submitted to USEPA on March 27, 2013 and was prepared to address a specific requirement of a draft Remedial Investigation/Focused Feasibility Study (RI/FFS) Statement of Work (SOW) issued by the United States Environmental Protection Agency (USEPA) as Appendix A of a proposed Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Focused Feasibility Study (Agreement) for the SCCC Site. Specifically, this SCSR was prepared to address the requirements listed in Section II (Task 1 – Site Characterization Summary Report) of the draft USEPA RI/FFS SOW dated July 2012. The purpose of the SCSR was to consolidate historical site information and characterization data to facilitate the development of a Conceptual Site Model (CSM) and the identification of remaining data needs. The SCSR was first submitted to USEPA on December 7, 2012. The Group made a presentation of the SCSR to USEPA and the New Jersey Department of Environmental Protection (NJDEP) on January 8, 2013. The NJDEP indicated its approval of the SCSR by letter dated January 9, 2013 and USEPA provided comments on the SCSR by letter dated February 7, 2013. On March 22, 2013, the Group submitted revised SCSR pages to USEPA which addressed the USEPA comments. The USEPA approved the SCSR by email dated March 26, 2013. On March 27, 2013, a final version of the approved SCSR was submitted to USEPA.

The scope of work for addressing the additional data needs for the Site, as identified in the SCSR, was proposed in the Final RI/FFS Work Plan for the SCCC Site (KEY, 2013). This RI/FFS Work Plan was prepared pursuant to the Agreement. Specifically, the RI/FFS Work Plan was prepared to address the requirements listed in Section III: TASK 2 – RI/FFS Work Plan of the RI/FFS Statement of Work, which is Appendix A of the Agreement. The RI/FFS Work Plan was approved by USEPA by letter dated September 27, 2013. The data needs were developed based upon an evaluation of the historical analytical data and current Site conditions as summarized in the (SCSR, KEY 2012) and the CSM presented in Section 3.0 of the RI/FFS Work Plan.

The RI/FS Work Plan field work focused on the following data collection activities:

- *Sampling and analysis of surface soils on the SCCC Site;*
- *DNAPL (dense non-aqueous phase liquid) delineation on the western portion of the SCCC property;*
- *DNAPL delineation in the vicinity of boring D-4 on the adjacent Former Koppers Seaboard Site property; and*
- *Sampling and analysis of the varved clay to verify the vertical extent of impacts.*

KEY supervised these soil sampling and monitoring well/piezometer abandonment activities from October 14 through November 1, 2013. These soil samplings and monitoring well and piezometer abandonment activities were conducted in accordance with the USEPA-approved RI/FFS Work Plan.

Based on observations made during the soil sampling program, KEY recommended that a groundwater sample be collected for analysis from piezometer PZ-13L which is located at the southwest property boundary and outboard of the slurry wall. The collection of this groundwater sample was completed on November 11, 2013. This additional sampling activity is discussed in Section 2.4 and the groundwater analytical results are discussed in Section 4.0.

1.1 REPORT ORGANIZATION

This report is divided into the following seven sections:

- Section 1.0 – Introduction: presents relevant background information and objectives.
- Section 2.0 – Site Characterization Activities: provides a summary of the soil sampling activities, samples submitted for analysis, and the scope of the data quality review.
- Section 3.0 – Monitoring Well/Piezometer Abandonment Activities: provides a summary of the well abandonment activities performed.
- Section 4.0 presents the results of surface soil and subsurface soil sample analyses, a summary of DNAPL observations and the results of the analyses of the groundwater sample collected from piezometer PZ-13L.
- Section 5.0 – Summary of the Site Characterization: presents a summary of the conclusions of the study and recommendations for future RI/FFS activities.
- Section 6.0 – References: Lists the references used in the preparation of this report.

2.0 SITE CHARACTERIZATION ACTIVITIES

This section provides a description of the protocols and methodologies used during the implementation of the investigation. The surface and subsurface soil sampling activities completed to further characterize surface soil conditions, subsurface DNAPL delineation, and vertical extent of impact in the varved clay are described. The collection of the groundwater sample from piezometer PZ-13L is also summarized. A discussion of ancillary activities such as data validation and management of investigation derived waste (IDW) is included as well.

Surface and subsurface soil samples were collected from 14 DNAPL delineation borings and five (5) varved clay delineation borings. The locations of the DNAPL delineation borings and the varved clay delineation borings are shown on Figure 2. The soil boring installation and soil sampling activities were conducted in accordance with the RI/FFS Work Plan. Table 1 provides a listing of samples submitted for analysis along with information on lithology and DNAPL observations.

2.1 SURFACE SOIL SAMPLING AND ANALYSIS

Surface soil samples were collected from the DNAPL delineation borings (D-14 through D-22) and from the varved clay borings (VC-1 through VC-5) located on the SCCC property (Figure 2). Surface soil samples were not collected for analysis from the adjacent Seaboard site as part of this investigation as several feet of processed dredge material (PDM) have recently been placed in this area. Surface soil samples were collected for analysis by the Group prior to PDM placement at the Seaboard site and the results are presented in the SCSR. The surface soil samples were collected from the 0 to 6 inch interval directly beneath the IRM cover material (comprised of either asphalt and sub-base or stone and geomembrane lining) to target the soil-like fill layer beneath¹. The purpose of this activity was to characterize the chemical constituents occurring within the surface soil throughout the Site and supplement data collected from previous investigations for use in the forthcoming Baseline Human-Health Risk Assessment (BHHRA).

Surface soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), including all three trichlorobenzene isomers (1,2,3-, 1,2,4-, and 1,3,5-), TCL Semi-Volatile Organic Compounds (SVOCs), Target Analyte List (TAL) metals, hexavalent chromium, oxidation-reduction potential (ORP), pH, Polychlorinated Biphenyls (PCBs) and Polychlorinated-dibenzo-p-dioxins and furans (PCDD/PCDF), as indicated in Table 1. The samples were submitted for analysis to Test America Laboratory in Edison, NJ (NJDEP (NELAP) Certification # 12028) except for the samples for hexavalent chromium, ORP, and pH

¹ These IRMs were installed to prevent direct contact exposure to surface soils. These IRMs are currently in place and have been continuously inspected and maintained.

analyses. These samples were shipped to Eurofins Lancaster Laboratories Environmental, LLC in Lancaster PA (NJ Certification # PA011). A summary of the surface soil analytical results is provided in Section 4.0.

2.2 SUBSURFACE SOIL CHARACTERIZATION

The primary objective of the subsurface soil characterization is to identify the extent of DNAPL impacts in the western area of the Site and in the vicinity of existing soil boring D-4, located on the Seaboard Site. The data collected supplements the existing DNAPL delineation information for the Site which is summarized in the SCSR.

Fourteen (14) soil borings (D-14 through D-27) were completed to further delineate the horizontal extent of DNAPL on the SCCC and Seaboard Sites and five (5) soil borings (VC-1 through VC-5) were completed to further delineate the vertical extent of DNAPL on the SCCC Site. The DNAPL delineation borings were located around the perimeter of Buildings 2, 3, and 4 on the SCCC site, in the vicinity of previous DNAPL delineation boring D-4 on the Seaboard site, and in various other locations of interest as depicted on Figure 2.

Borings were advanced into the top of the varved clay utilizing Sonic drilling and sampling methods. Temporary steel casing was keyed and sealed into the meadow mat prior to advancement beneath the fill materials to eliminate the potential for downward migration of constituents to the deep sand unit. A second sealed casing was keyed into the varved clay to eliminate the possibility of downward migration of DNAPL or dissolved constituents from the sand unit. The top of the varved clay layer ranged from approximately 14.5 (VC-1) to 19 (VC-03) feet below ground surface (bgs) on the SCCC Site and from 17 (D-24) to 20.25 (D-27) feet bgs (from the top of the PDM) on the Seaboard Site.

Continuous soil samples (sonic cores) were obtained throughout the entire depth of each borehole to accommodate visual determination of the presence/absence of DNAPL. The soil samples were field screened and logged by the supervising field geologist. Soil samples obtained for laboratory analysis were collected from discrete 6-inch intervals. Surface soil samples were obtained for each of the DNAPL borings completed on the SCCC site as discussed in the preceding section. Additional subsurface samples were obtained for analysis at depth according to the following protocol.

If the presence of residual or free-phase DNAPL was not noted in a given boring, a confirmatory sample was obtained from the base of the deep sand unit (i.e., the interval immediately above the contact with the varved clay) for laboratory analysis to confirm the absence of DNAPL. Additionally, a soil sample was collected for laboratory analysis from the upper one (1) foot of the varved clay from each borehole to confirm the absence or presence of DNAPL-related

constituents within this unit. A second deeper varved clay sample was also obtained in the event that the upper clay sample contained constituents at concentrations greater than applicable screening criteria. The lower varved clay samples were collected approximately five feet beneath the top of the varved clay. The deeper sample was kept on hold by the laboratory pending receipt and review of preliminary analytical results for the upper varved clay sample. Where impacts to the upper varved clay sample were confirmed, analysis of the lower varved clay sample was conducted.

If presence of residual or free-phase DNAPL was noted based on field observation, then a sample from the DNAPL-impacted zone was collected for laboratory analysis. The presence of residual or free-phase DNAPL was determined via visual inspection. Visual evidence of free-phase DNAPL was based on observation of a high degree of continuous saturation or free draining conditions in the soil cores. The presence of residual DNAPL was based on the observation of disconnected, discrete globules that do not drain freely. In addition, selected samples exhibiting visual staining or elevated photoionization detector (PID) readings were field screened for DNAPL presence using the soil test kit "OIL-IN-SOIL™". Screening results from the "OIL-IN-SOIL™" field screen assisted in determining the presence/absence of residual DNAPL and discrete sample intervals to be submitted for laboratory analysis.

A DNAPL ranking system was employed as defined in the RI/FFS Work Plan. Samples assigned a DNAPL rank of 2 (residual DNAPL) or 3 (free-phase DNAPL) were submitted for analysis based upon the Work Plan criteria (maximum one sample from the fill/meadow mat and one from the deep sand per boring). A DNAPL ranking of 1 indicates the presence of staining or an odor and a ranking of 0 is indicative of no evidence of impact. Samples collected from the fill/meadow mat and/or deep sand (Lower Zone) were discrete grab samples from the interval exhibiting the most significant DNAPL impacts.

Subsurface soil samples were analyzed for TCL VOCs (including all three trichlorobenzene isomers) and TCL SVOCs. Additionally, selected soil (the first ten) samples exhibiting residual or free-phase DNAPL were also analyzed for PCBs and PCDDs/PCDFs. In addition, the upper varved clay samples collected from borings VC-1 through VC-5 were also analyzed for TAL metals and hexavalent chromium, pH, and ORP. The NJDEP has quality assurance/quality control requirements for hexavalent chromium analysis in soils that are above and beyond those required by the USEPA SW-846 7199 method. These requirements consist of oxidizing or reducing condition characterization and hexavalent chromium spiking. Hexavalent chromium analyses were completed subject to these additional NJDEP requirements.

Upon the completion of sampling activities, all borings were abandoned with a cement-bentonite mixture using the tremie pipe method. Any IRM geomembrane liners that were penetrated were

repaired. Soil cuttings from drilling activities were containerized and managed as described in Section 2.3. All boring locations and ground surface elevations were surveyed by a registered professional land surveyor licensed in the state of New Jersey. The survey data are referenced to the New Jersey State Plane Coordinate System and the 1983 North American horizontal datum (NAD83). Elevations are referenced to mean sea level in accordance with the 1988 North American Vertical Datum (NAVD88).

2.3 GROUNDWATER SAMPLING OF PZ-13L

Collection of a groundwater sample from piezometer PZ-13L with attendant analyses was recommended to provide water quality data for the area outside of the slurry wall beyond the southwest corner of the SCCC Site. This recommendation was based upon the observed DNAPL presence in the lower sand unit at delineation borings D-23, D-24 and D-25. Figure 2 shows the location of piezometer PZ-13L relative to delineation borings D-23, D-24, and D-25.

Prior to purging, the well was checked for the presence of DNAPL. No DNAPL was measured in the piezometer and none was observed during purging and sampling. PZ-13L was sampled by the low flow purge method on November 11, 2013. The sample was submitted to Test America Laboratories for analysis of VOCs (8260B and 8260B SIM), and SVOCs (8270C and 8270C SIM). Sampling results are discussed in Section 4.0.

2.4 FIELD QUALITY CONTROL SAMPLES

Quality control (QC) for field sampling efforts was assessed via the collection of field QC samples, which consisted of the following:

- Field duplicates;
- Equipment blanks; and,
- Trip blanks.

Field duplicates are used to evaluate the sample collection and analyses effects on the reproducibility of data. Field duplicates were collected by splitting a sample evenly between the primary sample and QC sample containers. Field duplicates of soil samples for all analyses except volatile organics were taken by homogenizing the soil in a stainless steel bowl and then placing replicate portions into the sample containers. Field duplicates for volatile analyses were collected as separate discrete grab samples from the same location and boring depth. One field duplicate was collected per every 20 primary samples.

Equipment blank data are used to evaluate field decontamination procedures. Equipment blanks were collected by pouring analyte-free water supplied by the analytical laboratory over

decontaminated soil sampling utensils into the sample bottles. Equipment blanks were collected at a frequency of one per day.

Trip blank data are used to evaluate exposure to volatile organic constituents during sampling, shipping and storage at the laboratory. Trip blanks were prepared by the analytical laboratory and shipped with the VOC vials. One set of trip blanks were included in each cooler containing VOC sample vials and were analyzed for the same list of VOCs as the primary samples.

2.5 DATA VALIDATION

To assess the usability of the sample results, a review of the analytical data corresponding to USEPA Level II data validation was completed. The analytical results generated via SW-846 Method 8260B, 8270C, and 6020 were reviewed in accordance with specific critical components of relevant USEPA guidance for data validation. Specifically, the following information was evaluated:

- Sample holding time compliance
- Acceptable surrogate spike recoveries
- Equipment, field, and trip blank contamination
- Laboratory method blank artifacts
- MS/MSD RPDs and recoveries
- Field duplicate RPDs

The laboratory data packages were reviewed to ensure that samples were analyzed within an acceptable time frame (based on the date of sample collection). Surrogate recoveries were reviewed to determine if the Gas Chromatography/Mass Spectrometry instrumentation was performed adequately. Equipment, field, and trip blank results were reviewed to determine potential extraneous sources of sample contamination. Method blank results were reviewed to identify the possibility of laboratory contamination of the samples. The Matrix Spike/Matrix Spike Duplicate (MS/MSD) results provide an indication regarding the precision of the analytical method, given the potential for matrix interference effects. Field duplicate results were checked to document the precision of the sampling process.

The data usability assessment was completed in accordance with applicable sections of the following guidance documents: USEPA's Contract Laboratory Program, National Functional Guidelines for Organic Data Review, and National Functional Guidelines for Inorganic Data Review. As required, this guidance document was utilized in addition to the laboratory Standard Operating Procedures (SOPs) for the respective analytical methods. Professional judgment was exercised throughout the data assessment effort, particularly for situations that are not addressed or clearly specified in the SOPs or in the guidance documents.

No major data quality issues were noted. In some instances, method detection limits were greater than the Regional Screening Levels (RSLs) that the data were screened against. This was in some cases due to the necessary dilution of samples that contained concentrations of constituents at levels greater than the instrument calibration range. Also, in other cases the RSLs are lower than any level that can be accurately measured by laboratory instrumentation and methods. The results of the data quality review were provided to USEPA along with the electronic data deliverable and validated data on February 11, 2014.

2.6 INVESTIGATION-DERIVED WASTE MANAGEMENT

Various types of Investigation-Derived Waste (IDW) were generated during the course of the supplemental field investigation activities. IDW consisted of the following:

- Drill cuttings
- Drilling fluids
- Purge water
- Decontamination fluids
- Personnel protective equipment
- Disposable sampling equipment
- Plastic sheeting

Management of IDW was conducted in accordance with the protocol established in the RI/FFS Work Plan. Cuttings generated from above the meadow mat were segregated from those occurring beneath the meadow mat. Each segregated zone was containerized in 55 gallon steel drums and labeled accordingly. Likewise, drilling fluids were segregated based upon the same criteria. The free liquids contained in the drilling fluid drums were decanted off and then transferred at the onsite hydraulic control treatment system (HCTS) for treatment. Purge water from the sampling of PZ-13L was also transferred to the onsite HCTS for treatment.

Personal protective equipment and sampling equipment were containerized together and staged for offsite disposal. Decontamination water was transferred from the decontamination pad into a polyethylene storage tank or other suitable container and subsequently transported to and treated at the onsite HCTS. All drums containing IDW were staged in a secure Conex Box located on Site. IDW drums were disposed off-site on February 20, 2014 pursuant to the notification given to USEPA on January 16, 2014. The drums of soil were transported to Environmental Recovery Corporation in Lancaster, PA where the soils were stabilized and landfilled. The DNAPL removed from monitoring well MW-3L prior to well abandonment was combined with DNAPL recovered from DNAPL Recovery Well DRWL-9 and was transported to the Veolia Environmental Services facility in Port Arthur, Texas for incineration.

3.0 MONITORING WELL/PIEZOMETER ABANDONMENT

The implementation of interim response action activities in 2010 - 2011 included a fully-enclosing barrier wall system and the installation of 16 DNAPL recovery wells, 26 hydraulic controls wells and 28 piezometers throughout the SCCC and neighboring Diamond and Seaboard sites. Thus, in light of the completion of the interim response action, many of the previously existing monitoring wells and piezometers, which were installed for site characterization purposes, were deemed to be applicable for decommissioning. A total of eight (8) monitoring wells and seven (7) piezometers located on the SCCC Site were abandoned as specified in the RI/FFS Work Plan. Figure 3 provides the locations of these wells and piezometers.

Prior to well abandonment, the total depth of each well was measured for comparison to the drilled depth reported on well construction forms. This ensured that the correct well is located and that no significant collapse or sediment buildup had occurred. Table 2 provides the well gauging information prior to abandonment. Wells SC-MW-1L, SC-MW-5L, SC-PZ-3U, SC-PZ-3D, SC-MW-6L, SC-MW-7L, SC-PZ-4U, and SC-PZ-2U required hydraulic jetting prior to abandonment to achieve original installation depth. Well MW-3L contained DNAPL at the time of abandonment activities; approximately 2.5 gallons of DNAPL was removed from this well prior to abandonment. Recovery well DRWL-7 was installed immediately adjacent to the location of monitoring well MW-3L to provide for future DNAPL recovery from the deep sand unit in this area of the Site.

Abandonment was completed by tremie grouting cement-bentonite slurry from the base of the well to ground surface. The slurry was mixed in accordance with N.J.A.C. 7:9D. After the cement-bentonite grout cured for approximately 24 hours, any settling of the grout was topped off and the well casing capped with concrete. The decommissioning was performed by a NJ-licensed driller certified to abandon wells. Purge water generated was contained and handled as described above in Section 2.3. DNAPL pumped from MW-3L was placed in a 55 gallon drum, labeled accordingly, and staged with DNAPL drums generated during the ongoing DNAPL recovery program (e.g. DRWL-9, DRWL-11). This drum was managed and disposed of in accordance with the ongoing DNAPL recovery program procedures.

4.0 SUMMARY OF RESULTS

Soil samples were collected for analysis from all of the test boring locations (D-14 through D-27 and VC-1 through VC-5). Sampling locations are depicted on Figure 2. The laboratory analytical reports, electronic data deliverables, data validation reports and spreadsheets containing the validated data were previously submitted to USEPA and NJDEP on February 11, 2014.

The results of the samples collected for analysis were compared with RSLs for Industrial Soils. Additionally, for the three test borings drilled outside of the slurry wall (D-23, D-24, and D-25), the soil sample results for the sand unit were also compared to USEPA Protection of Groundwater RSLs. The soil samples collected from the underlying varved clay were compared to both the USEPA RSLs for Industrial Use and the USEPA Protection of Groundwater soil screening levels. The RSLs used for comparison are based on a target 1×10^{-6} excess lifetime carcinogenic risk level and a target hazard quotient of 0.1. All data will be further evaluated in the BHHRA and RI Report.

4.1 SURFACE SOIL

Surface soil samples were collected from the fill materials overlying the meadow mat on the SCCC Site. All samples collected for analysis represented the zero to one-half foot interval beneath ground surface (bgs) or the IRM cover material except at location D-21, where the fill material beneath the IRM cover occurred at a depth of seven feet. At this location, the surface sample represented the interval from 7.0 -7.5 feet. The surface soil sampling results for VOC, SVOC, metals, PCBs, and PCDD/PCDF are summarized in Table 3 through Table 7, respectively. In addition, graphical portrayals of the surface soil analytical data for Site-related constituents are depicted on Figure 4. The constituents selected for analytical data portrayal on Figure 4 include the chlorobenzene compounds (1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and chlorobenzene), naphthalene, PCB 1260, dioxins/furans and total and hexavalent chromium. These constituents represent those that have been detected most frequently throughout the various investigations completed at the Site.

Within the surface soils, the Site-related constituents that exceeded USEPA RSLs for Industrial Soil were several chlorinated benzene compounds (1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and chlorobenzene), hexavalent chromium and dioxin/furans (based on the 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Toxicity Equivalent Quotient (TEQ)).

Chlorinated benzene exceedances occurred at 5 of 14 sampling locations. The location exhibiting the greatest concentrations of chlorinated benzenes was in the southwest portion of the Site at location D-21 (Figure 7). At this location, the concentrations of 1,2-dichlorobenzene (1,000

mg/kg), 1,4-dichlorobenzene (2,000 mg/kg), and chlorobenzene (280 mg/kg) all exceeded their respective RSLs for Industrial Use. However, D-21 is the location where the uppermost soil-like fill material was encountered at a depth of 7 feet-bgs. In general, the surface soil data do not indicate that substantial surficial releases occurred at the locations investigated.

Other locations exceeding screening criteria for 1,4-dichlorobenzene occurred within the western portion of the Site at locations D-15, D-16, and D-18. At D-19, 1,2,4-trichlorobenzene also exceeded its RSL. Other SVOCs that exceeded screening levels were primarily polycyclic aromatic hydrocarbons (PAHs). The most common PAHs that exceeded screening criteria were benzo(a)pyrene, benzo(a)anthracene, and benzo(b)fluoranthene. These constituents are likely associated with the placed fill materials that occupy the Site (See Table 4). This conclusion is based on the low levels detected for the individual PAHs (generally on the order of one part per million or less and the lack of any sort of spatial correlation.

Hexavalent chromium exceeded the RSL at 10 of the 14 soil sample locations. The exceedances were relatively evenly distributed throughout the western portion of the Site. The maximum concentration of hexavalent chromium that was detected was 3,390 mg/kg at boring D-16. Other metals that exceed RSLs were cobalt at nine locations and, vanadium and arsenic (see Table 5), at eight locations each. The detections of cobalt and vanadium at concentrations greater than the screening criterion were located sporadically over the western half of the Site as well as along the western boundary of the former lagoon and process areas. Many of the arsenic exceedances were at a concentration of approximately 10 mg/kg or less, and likely reflect natural or anthropogenic sources associated with the placed fill materials.

Lead exceeded the screening criterion at two locations (D-19 and D-22)². The logs for both of these borings note the presence of slag and brick fragments in the near surface fill materials at these locations. Zinc also exceeded the RSL in the D-19 sample but was less than the RSL in all other surface soil samples. Antimony exceeded the screening criterion in two samples (D-22 and VC-3).

One surface soil location exhibited a RSL exceedance for PCBs. This occurred at location D-18 where PCB Aroclor 1260 was detected at a concentration of 4.2 mg/kg.

Twelve of the 14 samples submitted for PCDD/PCDF analysis exceeded the RSL of 1.8×10^{-5} mg/kg 2,3,7,8-TCDD TEQ. Concentrations, expressed as 2,3,7,8-TCDD TEQs, in these samples ranged from 4.33×10^{-5} mg/kg to 1.15×10^{-3} mg/kg.

² It is noted that the lead concentration in the duplicate sample collected from location VC-2 also exceeds the RSL. However, the lead concentration reported for the primary sample from this location is less than the RSL.

No further characterization of Site surface soils is deemed necessary at this time to support the BHHRA and FFS. Should the BHHRA conclude that unacceptable risks exist and remediation of surface soils is warranted, then additional characterization work may be necessary in support of the remedial design.

4.2 SUBSURFACE SOIL

Subsurface soil samples were collected for analysis from the meadow mat, the sand unit and varved clay unit. The analytical results are summarized in the following subsections. The discussion regarding the meadow mat and sand unit also includes information regarding DNAPL observations and the varved clay topography.

4.2.1 Meadow Mat and Sand Unit

Subsurface soil samples were collected from 19 locations (D-14 through D-22, VC-1 through VC-5). A total of 21 samples were collected and submitted for analysis from the 19 locations. Samples of the fill or meadow mat were submitted for analysis if DNAPL was observed in the sample. One sample of the meadow mat (D-16 9-9.5 ft-bgs) and one sample of fill material (D-27 10-10.5 ft-bgs) were submitted for analysis based on the observation of DNAPL. It should be noted that the field geologist interpreted the DNAPL at location D-27 on the Seaboard Site to be of a coal tar origin based on visual and odorous observations and therefore not related to the SCCC Site. The analytical results for this sample are supportive of that inference. Samples from the sand unit were selected for analysis if residual or free-phase DNAPL was observed in the sample, otherwise the sample collected from immediately above the varved clay contact was submitted for analysis.

All samples were analyzed for VOCs, SVOCs, and select DNAPL-impacted samples were also analyzed for PCB, and PCDD/PCDF. The analytical results are summarized on Tables 8 through 11, respectively. Figure 5 presents the soil analytical data for Site-related constituents for the samples submitted from the meadow mat and sand unit.

Free phase DNAPL was not observed within the meadow mat. Residual DNAPL was observed in the meadow mat at only one location (D-16) on the SCCC Site. This boring was located in the vicinity of a former above-ground storage tank (AST) farm that existed west of Building 2. The meadow mat sample from this location was submitted for analysis. This sample exhibited concentrations that exceeded RSLs for 1,2-dichlorobenzene, 1,4-dichlorobenzene, chlorobenzene, and naphthalene. A deeper sample from boring D-16 representing the lower sand unit did not exhibit exceedances of RSLs for any these or any other Site-related constituents. Residual DNAPL, suspected to be coal-tar like material derived from an off-site source, was observed in fill material and Meadow Mat at Boring location D-27 located on the Seaboard Site.

Analytical data for the sample of the fill material from Boring D-27 support the inference that the material observed at this location is derived from a coal-tar like source.

For the samples collected from the lower sand unit, at least one chlorinated benzene compound exceeded RSLs from 17 of the 19 locations. The areas exhibiting the highest concentrations correspond to the locations where possible free-phase or residual DNAPL was observed within the lower sand unit.

These locations consist of the following:

- The southwest portion of the Site near Building 2 (Borings D-15, D-16, D-18, D-21, D-22)
- The area immediately to the southwest of the Site (D-23, D-24, and D-25); and,
- The area immediately west of the former process area (Borings VC-3, VC-4, and VC-5).

The soil concentrations provide information that is indicative of the DNAPL composition. In general, the DNAPL in the southwestern portion of the Site is comprised primarily of dichlorobenzene isomers. The DNAPL in the eastern portion of the Site near the process area is comprised of naphthalene and 1,2,4-trichlorobenzene as well as the dichlorobenzenes.

As presented in Table 9 various PAHs also exceeded USEPA RSLs for Industrial Use in the borings that exhibited possible free-phase or residual DNAPL (D-23, D-24, D-25, D-27, VC-3, VC-4, and VC-5).

Analytical results for PCBs and PCDD/PCDF are summarized on Tables 10 and 11, respectively. PCBs did not exceed RSLs at any of the locations where samples were submitted for analysis. PCDD/PCDF concentrations expressed as 2,3,7,8-TCDD TEQs exceeded the RSL for the sand unit samples exceed the RSL of 1.8×10^{-5} mg/kg in 9 of the 10 samples analyzed.

For the borings drilled outside of the slurry wall containment (D-23, D-24, and D-25), constituents were also compared to Protection of Groundwater screening criteria. At these locations, dichlorobenzene isomers and chlorobenzene were found to exceed the groundwater criteria. Naphthalene also exceeds groundwater criteria at D-23 and 2,3,7,8-TCDD TEQs exceeded groundwater criteria at D-24. Figure 5 provides the locations for each of these areas.

Figure 6 presents DNAPL field observations, documented in accordance with the ranking protocol described in Section 2.2, for each of the 19 delineation borings completed pursuant to the RI/FFS Work Plan and pre-existing locations on the SCCC and the Seaboard Sites. Figure 7 depicts the surface elevation on the top of the varved clay unit at certain boring locations. The boring locations used in the evaluation of the varved clay topography were those where

continuous samples or information (i.e., cone penetrometer test soundings) regarding subsurface soils were obtained. The varved clay unit is continuous beneath the Site. The thickness of this unit beneath the SCCC Site is estimated at greater than 40 feet based on subsurface data acquired from geotechnical borings completed during the IRA Pre-Design Investigation in 2008. The vertical permeability of the varved clay unit, based on laboratory testing of Shelby tube samples collected at the Seaboard Site, averaged approximately 2.8×10^{-7} centimeters per second (cm/sec) (KEY, 1998). The varved clay therefore acts as an effective barrier to the downward migration of DNAPL and groundwater from the sand unit above.

Figure 8 is a surface elevation contour map of the varved clay. Given the physical properties of the Site DNAPLs (high density and low viscosity) and the low permeability of the clay, it is likely that the clay surface influenced the movement of the DNAPL. As shown on Figure 8 a low spot in the clay surface exists near the south-central property boundary extending onto the Seaboard Site to the south. This low spot corresponds to the locations of DNAPL Recovery Wells DRWL-9 and DRWL-11 where the highest volumes of DNAPL have been recovered to date. Borings where free phase DNAPL was observed during the recent investigation (VC-3, VC-4, D-22) also appear to be located within topographic low spots on the varved clay surface.

Further characterization of conditions within the sand unit is not warranted at this time. The information gained from this and previous investigations regarding constituent concentrations and DNAPL presence will be further evaluated in the risk assessment and the FFS.

4.2.2 Varved Clay Unit

Soil sample results for the samples submitted for analysis from the varved clay unit are summarized in Table 12 through Table 14 for VOC, SVOC, and metals, respectively. In addition, graphical portrayals of the varved clay soil analytical results for Site related constituents are depicted on Figure 9. Samples were collected for analysis from the interval from 0.5 to one foot below the contact with the overlying sand unit. A second sample collected from approximately 5 feet below the sand contact was submitted to the laboratory and was held for analysis pending the results of the VOC analyses for the shallower varved clay sample. Where one or more VOC constituent was detected at concentrations greater than the Groundwater Protection RSL in the upper varved clay sample, the second varved clay sample was taken off of hold and was analyzed for VOCs and SVOCs. Both varved clay samples from borings VC-1 through VC-5 and Boring D-20 were also analyzed for metals.

The concentrations of Site-related constituents, if detected, within the varved clay were several orders of magnitude lower than the samples analyzed from the overlying sand unit. Additionally, visual inspection of the retrieved core samples did not indicate the presence of residual or free-phase DNAPL within the clay unit. The lack of observable DNAPL in the varved clay occurred

even where the overlying lower sand unit was observed to contain free-phase DNAPL directly on top of the clay. This observation supports the position that the varved clay is an effective confining layer and impedes downward migration of DNAPL.

To evaluate the potential for constituent leaching to groundwater, the samples submitted for analysis from the varved clay were also compared to the USEPA Protection of Groundwater RSLs. The Site-related VOCs exceeding Protection of Groundwater criteria in the uppermost varved clay sample include: 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and chlorobenzene. For all of these constituents, the Protection of Groundwater RSLs are less than 1 mg/kg. In general, where DNAPL was observed in the deeper sand unit, concentrations of one or more chlorinated benzene compounds exceed the Protection of Groundwater regional screening criteria in the upper varved clay sample. These constituents are rapidly attenuated in the clay as evidenced by the concentrations reported in the deeper varved clay sample which are less than the screening criteria, except for one location (D-25).

In addition to the chlorinated benzenes, several SVOC constituents, including naphthalene, exceeded Protection of Groundwater RSLs, primarily at locations VC-3, VC-4, and VC-5 which are located at the western perimeter of the former process area. Other locations where various SVOC constituents exceeded regional Protection of Groundwater screening criteria included: D-15, D-20, D-22, D-25, and D-27 (See Table 13).

The USEPA Protection of Groundwater RSL for hexavalent chromium of 0.00059 mg/kg was exceeded in all of the upper varved clay samples (VC-1 through VC-5). Concentrations ranged from 0.23J to 8.9 mg/kg. It is noted that the Protection of Groundwater RSL for hexavalent chromium is lower than any concentration that can be measured by current laboratory methods and equipment. Thus any positive detection of hexavalent chromium will exceed the Protection of Groundwater RSL. Vanadium also exceeded the Protection of Groundwater RSL within the upper varved clay sample locations.

The vast majority of the Protection of Groundwater RSL exceedances within the clay occurred within the upper varved clay sample. The lower varved clay samples analyzed did not exhibit Protection of Groundwater RSL exceedances except for hexavalent chromium at VC-2 and VC-3, vanadium (at all five locations), and naphthalene and several SVOCs at VC-4. At all of these locations, the upper varved clay sample exhibited higher constituent concentrations than the lower sample (with the exception of the metal vanadium).

The analytical results confirm the effectiveness of the varved clay as a barrier to vertical migration of DNAPL and dissolved constituents. No further characterization activities for this unit are warranted. Surface and subsurface soil data will be further evaluated in the BHHRA and FFS.

4.3 GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results for the sample collected from piezometer PZ-13L are summarized in Table 15. The sample was analyzed for VOCs (8260B and SVOCs (8270B). With regard to VOCs, detected constituents include 1,2-dichlorobenzene (19,000 ug/l), 1,3-dichlorobenzene (15,000 ug/l), 1,4-dichlorobenzene (24,000 ug/l), chlorobenzene (1,800 ug/l), benzene (190 ug/l), and dichlorofluoromethane (590 ug/l). The following SVOC constituents were also detected: naphthalene (11J ug/l), 2,4-dichlorophenol (86 ug/l), 2-chlorophenol (14J ug/l), and bis(2-chloroethyl)ether (0.62 ug/l). The results corroborate the DNAPL observations made in this area and soil sample results from D-24 and D-25.

As indicated previously, free-phase DNAPL was not observed in the groundwater in PZ-13L during purging and sampling even though adjacent soil samples indicated the presence of potential free-phase DNAPL. Installation of the slurry wall, prevents further migration of DNAPL by containing the source. The groundwater data will be further evaluated in the BHHRA and the FFS.

4.4 DATA VALIDATION SUMMARY

This section presents the results of the limited review of the analytical data for field and laboratory quality assurance/quality control (QA/QC) samples collected during the Standard Chlorine RI/FFS 2013 sampling event. Data were reviewed for completeness, hold times, laboratory blank contamination, field blank contamination, field duplicate precision, surrogate recoveries, MS/MSD, and laboratory control sample recoveries.

Dioxins were sampled outside of the hold time in samples VC-3 18.2-18.7, VC-4 0-6, VC-4 18.5-19, and D-102 5-5.5 but all were sampled within 2X the hold time and therefore considered usable results. Field personnel collected QA/QC samples including eleven trip blanks, ten equipment blanks, five blind field duplicates, and eleven MS/MSD's.

1,3-dichlorobenzene and 1,4-dichlorobenzene were detected in trip blank TB-10. No constituents were detected in any other trip blanks. Constituents detected in equipment blanks included several dioxins and furans, cobalt, iron, bis(2-ethylhexyl)phthalate, 1,3-dichlorobenzene, and, 1,4-dichlorobenzene. Constituents detected in the blanks are qualified with a "B" in the data tables if the associated sample results for each constituent are detected below the field blank, or trip blank action level. The action level is five (5) times the maximum concentration detected in the field/trip blank.

Field duplicate samples were collected for samples VC-2 0-6, VC-1 15-15.5, VC-4 18.5-19, VC-4 19.5-20, and D-26 17.25-17.75. Several results were outside of their associated target relative

percent difference (RPD) range ($\leq 50\%$) and qualified with a “J” (estimated) in the data tables for the applicable constituents in the samples and their respective duplicates. Only detectable results were compared and not the variation in method detection limits between the sample and its associated duplicate.

Several dioxins and furans, methylene chloride, chloroform, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene were detected in the method blanks. Groundwater samples that are associated with these method blanks that contain detections of any of the analytes are qualified with a “U” if a concentration is detected below the laboratory blank action level. The laboratory blank action level is five (5) times the maximum concentration detected in the blank.

The recovery of the pre-digestion spike sample and the laboratory duplicate sample analysis were outside of the control limits and hexavalent chromium results were all qualified as estimated, “J”. All results evaluated in this data set were considered usable and are presented in this report. The significance, if any, of concentrations reported as non-detect at detection limits greater than the RSLs and the constituent concentrations reported at levels greater than the RSLs will be further evaluated in the BHHRA and FFS.

5.0 SUMMARY

The activities conducted during the supplemental Site Characterization activities were designed to address the decisions identified in the RI/FFS Work Plan as described in Section 4.1 Data Quality Objectives. The data collected during the supplemental assessment addresses the following key decision points as provided in the RI/FFS Work Plan:

- 1) Are additional response actions necessary to control the potential for vertical movement of DNAPL into the varved clay beneath the site to ensure that migration of DNAPL beyond the barrier walls (which are keyed into the varved clay to a minimum depth of 3 feet) does not occur?***

Observations made during test boring drilling and the analytical data collected from the clay unit indicate that the varved clay is an effective confining layer that prevents vertical migration of DNAPL. In particular, the analytical results generated from the shallow and deep varved clay samples collected at boring locations illustrate the lack of DNAPL within the clay and the diminishing constituent concentrations with depth for Site-related constituents (Figure 9 and Tables 12 through 14).

- 2) Based on the assumption that institutional controls will preclude residential land use as does the most recent Redevelopment Plan adopted for the Site and its vicinity, are additional response actions (including institutional, engineering, or administrative controls) necessary to prevent potential organic and inorganic chemical exposure of relevant receptors (commercial/industrial workers or construction/utility workers) in a portion of Lot 50 which has heretofore been subjected to relatively more limited characterization?***

The analytical data collected from the test borings completed characterization of surface soils on the SCCC Site. The analytical results indicate limited exceedances of screening levels for Site-related constituents based on industrial use; most of these exceedances are present at locations at which asphalt and/or stone IRM covers prevent exposure to the surface soils. These data will be evaluated further in the BHHRA to define the need for additional response actions (if any).

- 3) Is modification of the DNAPL recovery operations appropriate to control potential lateral DNAPL movement given the potential presence of DNAPL at depth in the portion of Lot 50 which has been subjected to limited historical investigation primarily via indirect measurement of potential DNAPL presence (i.e., via use of a Rapid Optical Sensing Tool and Laser-Induced Fluorescence)?***

The analytical data generated and the observations made during test boring drilling identify areas of observed residual DNAPL in the meadow mat unit at one location (D-16) in the area of the former tank farm on the west side of Building #2. Residual DNAPL occurrence within the lower sand unit was observed in the area of the former AST farm west of Building #2 and in the area to the south of and adjacent to Building #2. Free phase DNAPL was observed adjacent to the southeast corner of Building #2 (Boring D-22) and adjacent to the former location of the central drainage ditch (Boring D-19). Free phase DNAPL in the sand unit was also observed in the area immediately west of the former lagoon and process areas (Borings VC-3, VC-4 and VC-5). The data generated from the characterization activities will be utilized in the FFS to determine the need, if any, for modification of the DNAPL recovery operations within this area.

- 4) Is an additional response necessary to remediate or control potential DNAPL migration (laterally and vertically) beyond the limits of the slurry wall in a discrete portion of the Seaboard Site where soil sampling indicated the potential presence of DNAPL at the western property line along the barrier wall alignment, specifically near DNAPL delineation boring D-4)?***

The subsurface samples collected and the visual observations made from the test borings (D-23, D-24, and D-25) installed outside of the containment wall near D-4 confirm the presence of DNAPL in this area. The groundwater sample results from PZ-13L show elevated concentrations of constituents which are consistent with a nearby DNAPL source. Although the field geologist described the DNAPL observed in these borings as free phase, it is likely that this DNAPL is no longer able to migrate as the DNAPL source is contained within the slurry wall installation. The data from this area will be evaluated in the BHHRA and an additional response action to address this area will be developed during the FFS, if necessary.

6.0 REFERENCES

KEY (Key Environmental, Inc.), April 1998. Remedial Action Work Plan, Former Koppers Seaboard Site, Kearny, New Jersey.

KEY (Key Environmental, Inc.), December 7, 2012. Site Characterization Summary Report, Standard Chlorine Chemical Company Inc. Site (SCCC), Kearny, New Jersey. Carnegie, PA

KEY (Key Environmental, Inc.), March 22, 2013. "Response to Comments – Site Characterization Summary Report - Standard Chlorine Chemical Co., Inc. Site – Kearny, Hudson County, NJ". Carnegie, PA.

KEY (Key Environmental, Inc.), March 27, 2013. Final Site Characterization Summary Report - Standard Chlorine Chemical Co., Inc. Site – Kearny, Hudson County, NJ. Carnegie, PA.

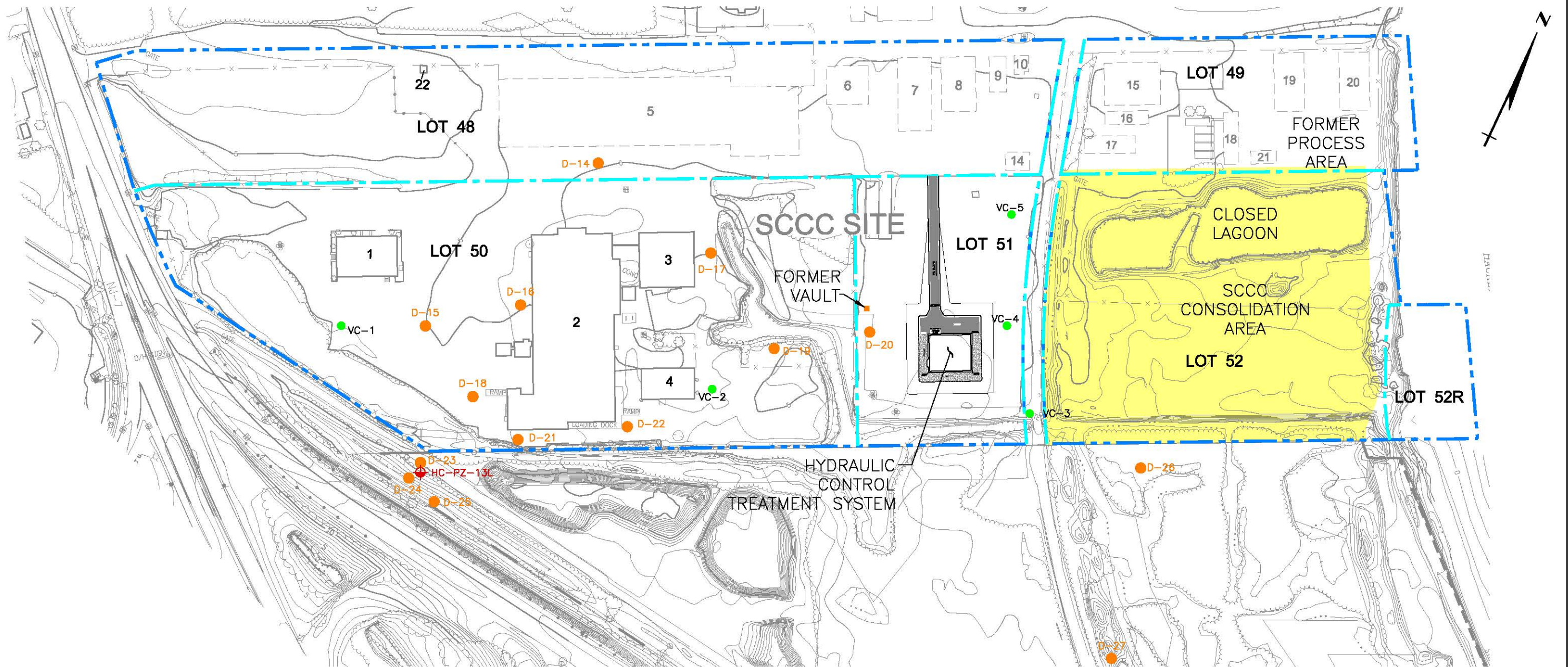
KEY (Key Environmental, Inc.), September 2013. Final Remedial Investigation/Focused Feasibility Study Work Plan, Standard Chlorine Chemical Company, Kearny, New Jersey.

USEPA (United States Environmental Protection Agency), February 7, 2013. USEPA's February 7, 2012 Comments on December 2012 Site Characterization Summary Report - Standard chlorine Chemical Co. Site. USEPA Region 2. New York, NY.

USEPA (United States Environmental Protection Agency), July 2011. Appendix A - Statement of Work for Remedial Investigation and Focused Feasibility Study - Standard Chlorine Chemical Company Superfund Site – Kearny, Essex County, New Jersey.

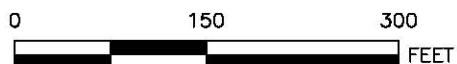
FIGURES

x:\Docu\keyenv\site characterization summary report addendum\figure 2- soil boring location map.dwg Last Saved By: Seamer, 3/27/2014 8:35 AM Plotted By: Shelly Comer, 3/28/2014 3:38 PM Scale: 1:1



LEGEND

- PROPERTY BOUNDARY
- LOT BOUNDARY
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING STREAM, POND AND RIVER BANK
- EXISTING VEGETATION
- CONSOLIDATION AREA COVER SYSTEM
- EXISTING ACCESS ROAD
- EXISTING FENCE
- EXISTING STRUCTURES
- FORMER STRUCTURE
- EXISTING UTILITY POLES
- DNAPL DELINEATION BORINGS
- VARVED CLAY SAMPLE LOCATION
- HYDRAULIC CONTROL PIEZOMETER



PERFORMING PARTIES GROUP

DRWN: SCC	DATE: 02/11/14
CHKD: JMW	DATE: 02/11/14
APPD: JSZ	DATE: 02/11/14
SCALE:	AS SHOWN



SITE CHARACTERIZATION SUMMARY REPORT ADDENDUM
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

DELINEATION BORING
LOCATIONS MAP

PROJECT NO: 2013-03
FIGURE 2

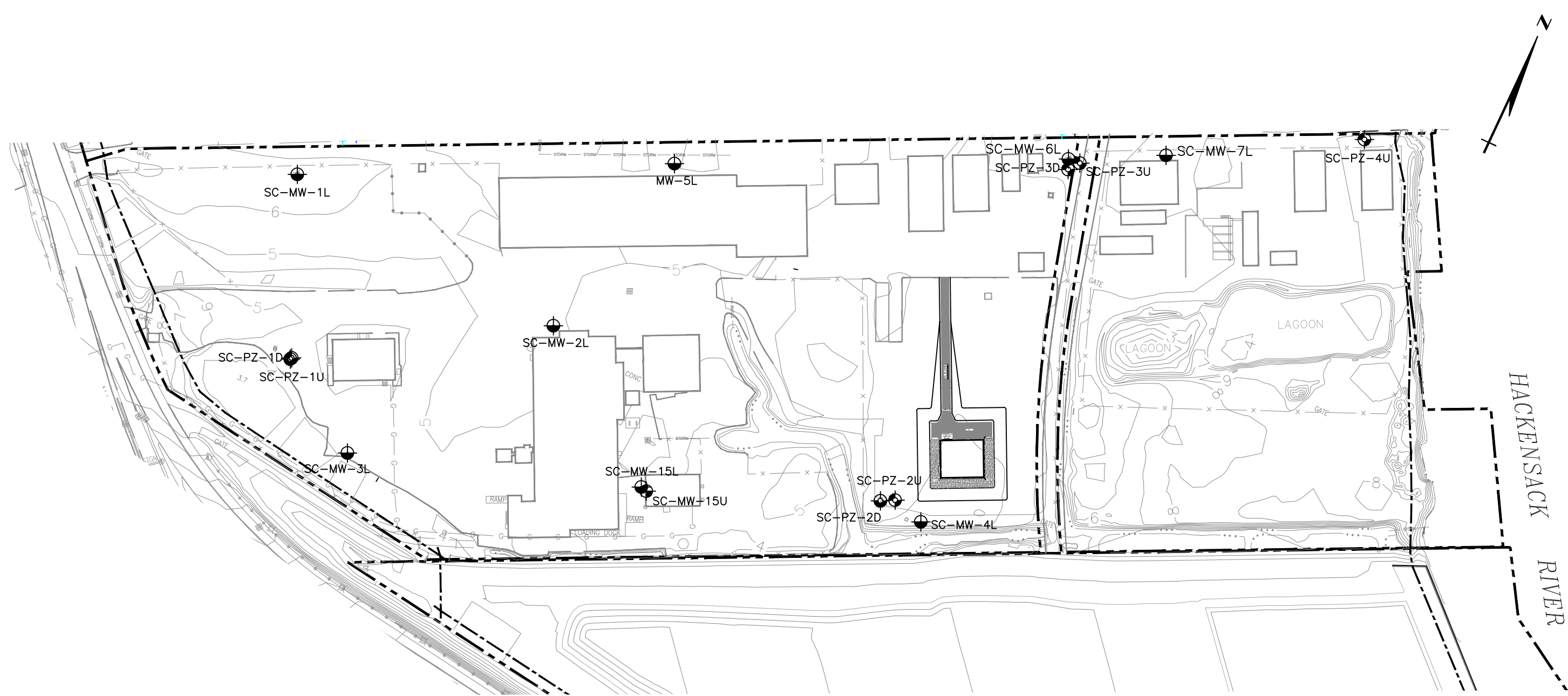
REV #	DATE	DESCRIPTION	APPD

REFERENCE: EXISTING GROUND SURFACE ELEVATION CONTOURS PER BORBAS SURVEYING & MAPPING, LLC.

ISSUE DATE:

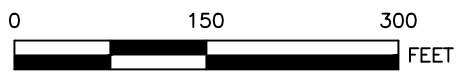
KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15108

y:\00env\keyenv\site characterization summary report addendum\figure 3.dwg Last Saved By: Scorer 3/14/2014 11:55 AM Plotted By: Shelly Comer 3/28/2014 3:38 PM Scale: 1:1



LEGEND

- PROPERTY BOUNDARY
- - - SLURRY WALL LOCATION
- == EXISTING ACCESS ROAD
- x - x - EXISTING FENCE
- □ STRUCTURES
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING VEGETATION
- EXISTING STREAM, POND AND RIVER BANK
- ● ● ● MONITORING WELL/PIEZOMETER LOCATION



PERFORMING PARTIES GROUP

DRWN: SCC	DATE: 02/11/14
CHKD: JMW	DATE: 02/11/14
APPD: JSZ	DATE: 02/11/14
SCALE:	AS SHOWN



SITE CHARACTERIZATION SUMMARY REPORT ADDENDUM
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

MONITORING WELL AND
PIEZOMETER ABANDONMENT LOCATIONS

PROJECT NO: 2012-14
FIGURE 3

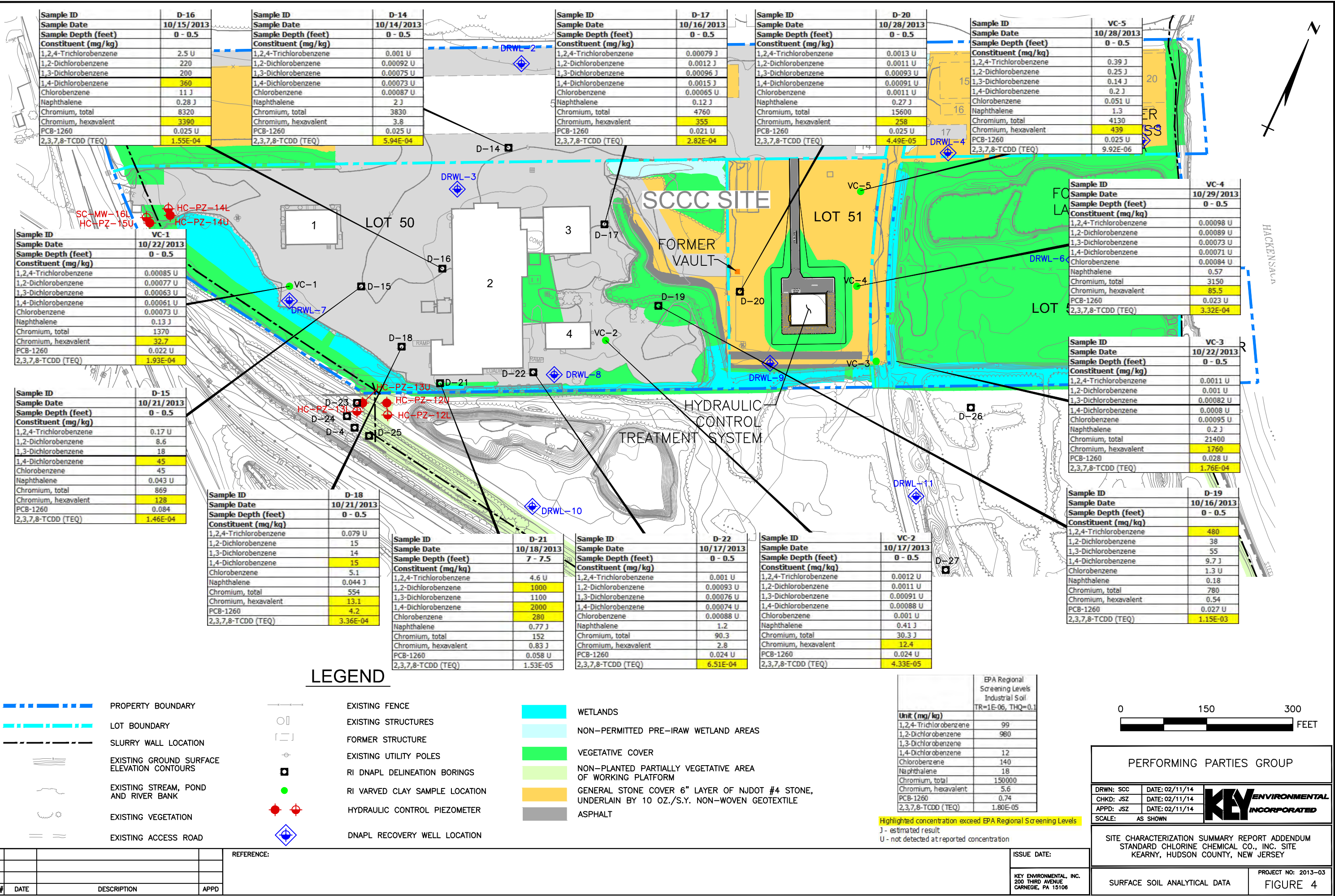
ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

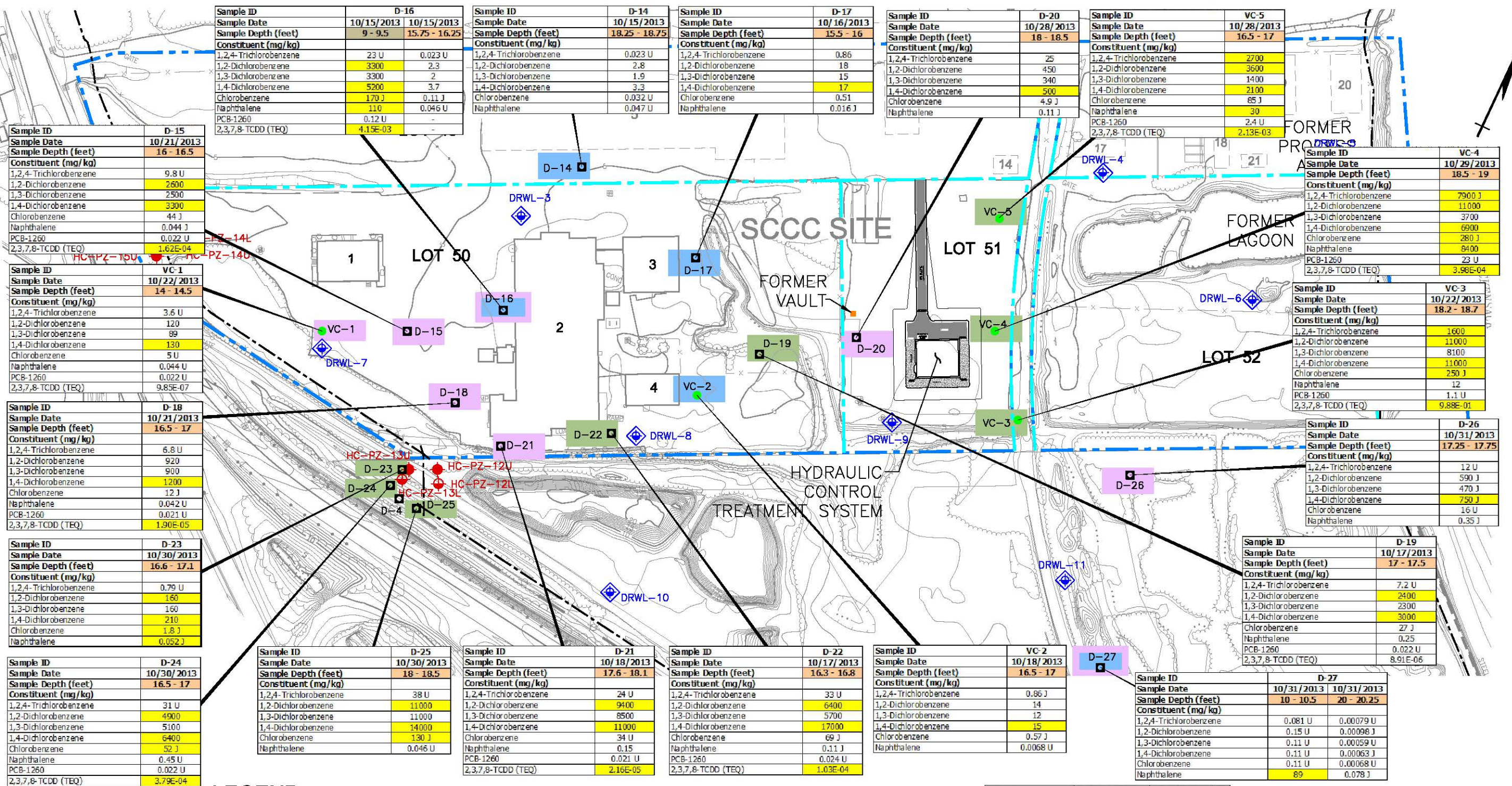
REFERENCE:

REV #	DATE	DESCRIPTION	APPD

y:\000\keyenv\site characterization summary report addendum\figure 4.dwg Last Saved By: Somer, 3/28/2014 8:19 AM Plotted By: Shelly Comer 3/28/2014 3:38 PM Scale: 1:1



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LEGEND

DNAPL OBSERVED IN SAND UNIT

Unit (mg/kg)	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽³⁾ TR=1E-06, THQ=0.1
1,2,4-Trichlorobenzene	99	0.2
1,2-Dichlorobenzene	980	0.58
1,3-Dichlorobenzene		
1,4-Dichlorobenzene	12	0.072
Chlorobenzene	140	0.068
Naphthalene	18	0.0047
Chromium, total	150000	2800000
Chromium, hexavalent	5.6	0.0059
PCB-1260	0.74	0.024
2,3,7,8-TCDD (TEQ)	1.80E-05	1.50E-05

Highlighted concentration exceed EPA Regional Screening Levels

J - estimated result

U - not detected at reported concentration

(1) - criteria comparison for samples D-23, D-24, and D-25

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15108

PERFORMING PARTIES GROUP

DRWN: SCC	DATE: 02/11/14
CHKD: JSZ	DATE: 02/11/14
APPD: JSZ	DATE: 02/11/14
SCALE: AS SHOWN	



SITE CHARACTERIZATION SUMMARY REPORT ADDENDUM
STANDARD CHLORINE CHEMICAL CO., INC. SITE
KEARNY, HUDSON COUNTY, NEW JERSEY

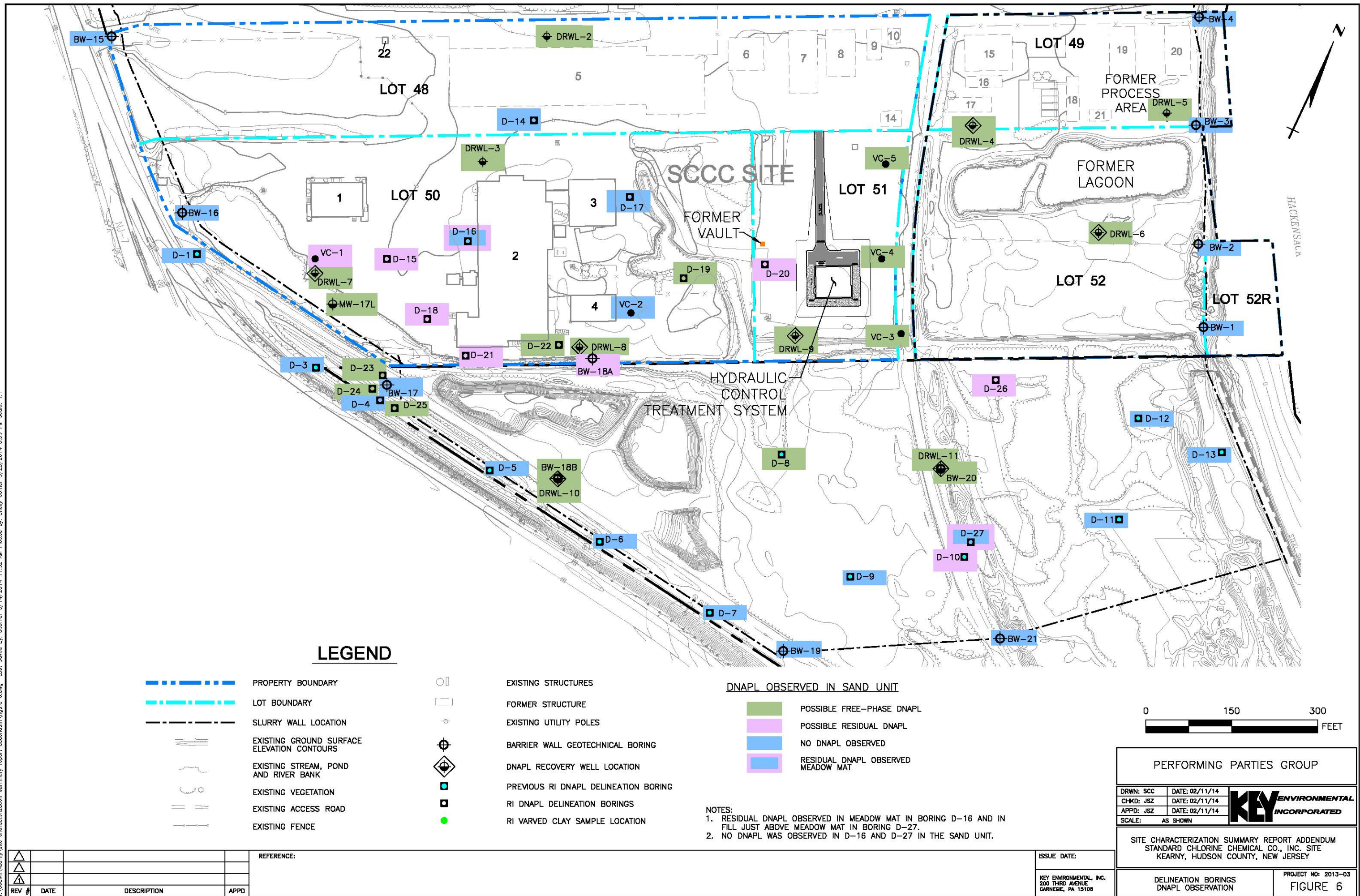
MEADOW MAT AND SAND UNIT
SOIL ANALYTICAL DATA

PROJECT NO: 2013-03
FIGURE 5

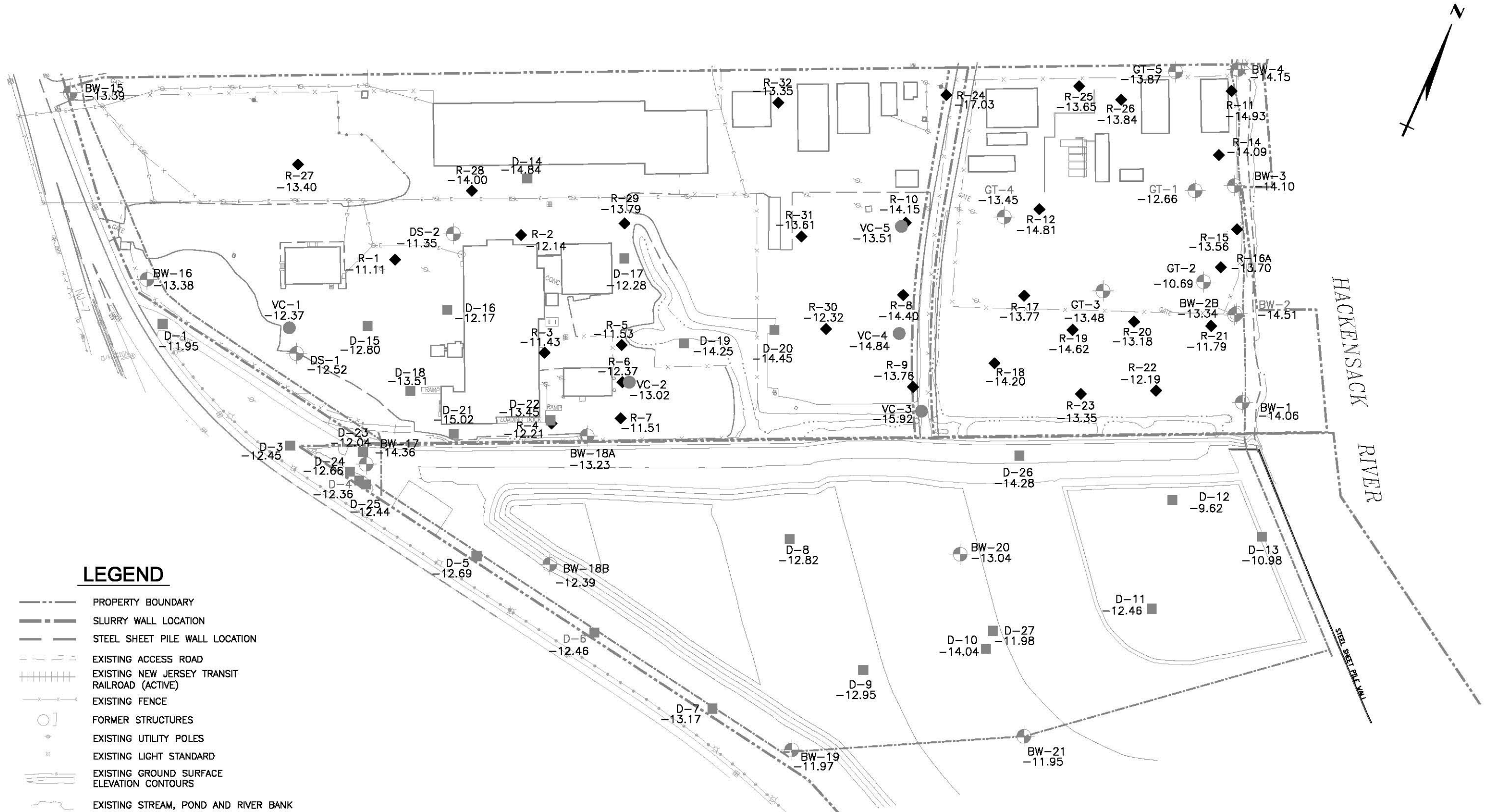
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REFERENCE:

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\\01dev\keyenv\site characterization summary report addendum\figure 7.dwg Last Saved By: Stomer, 3/14/2014 11:50 AM Plotted By: Shelly Conner, 3/28/2014 3:35 PM Scale: 1:2



LEGEND

- PROPERTY BOUNDARY
- SLURRY WALL LOCATION
- STEEL SHEET PILE WALL LOCATION
- EXISTING ACCESS ROAD
- EXISTING NEW JERSEY TRANSIT RAILROAD (ACTIVE)
- EXISTING FENCE
- FORMER STRUCTURES
- EXISTING UTILITY POLES
- EXISTING LIGHT STANDARD
- EXISTING GROUND SURFACE ELEVATION CONTOURS
- EXISTING STREAM, POND AND RIVER BANK
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- DNAPL DELINEATION BORING

0 80 160
FEET

PERFORMING PARTIES GROUP

DRWN: SCC	DATE: 02/11/14
CHKD: JMW	DATE: 02/11/14
APPD: JSZ	DATE: 02/11/14
SCALE:	AS SHOWN



SITE CHARACTERIZATION SUMMARY REPORT ADDENDUM
SCCC AND DIAMOND SITES
KEARNY, NEW JERSEY

VARVED CLAY SURFACE
ELEVATION MAP

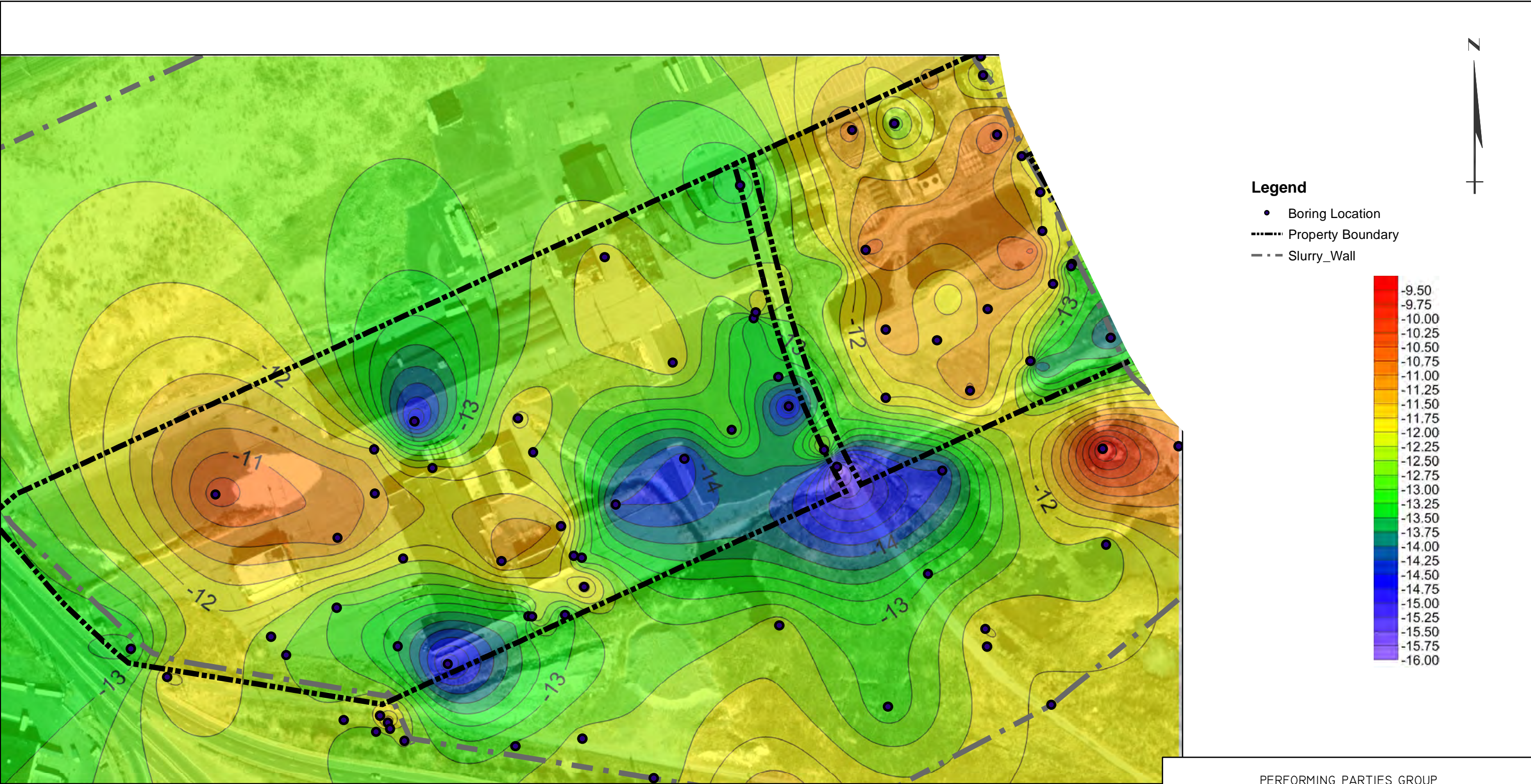
PROJECT NO: 2013-06
FIGURE 7


REFERENCE: EXISTING GROUND SURFACE CONTOURS PER AIR SURVEY, DULLES, VIRGINIA, APRIL 14, 2001. HORIZONTAL REFERENCE:
NEW JERSEY STATE PLANE COORDINATES (NAD 1927). VERTICAL REFERENCE: NATIONAL GEODETIC VERTICAL DATUM
(NGVD 1929).

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15108

REV #	DATE	DESCRIPTION	APPD



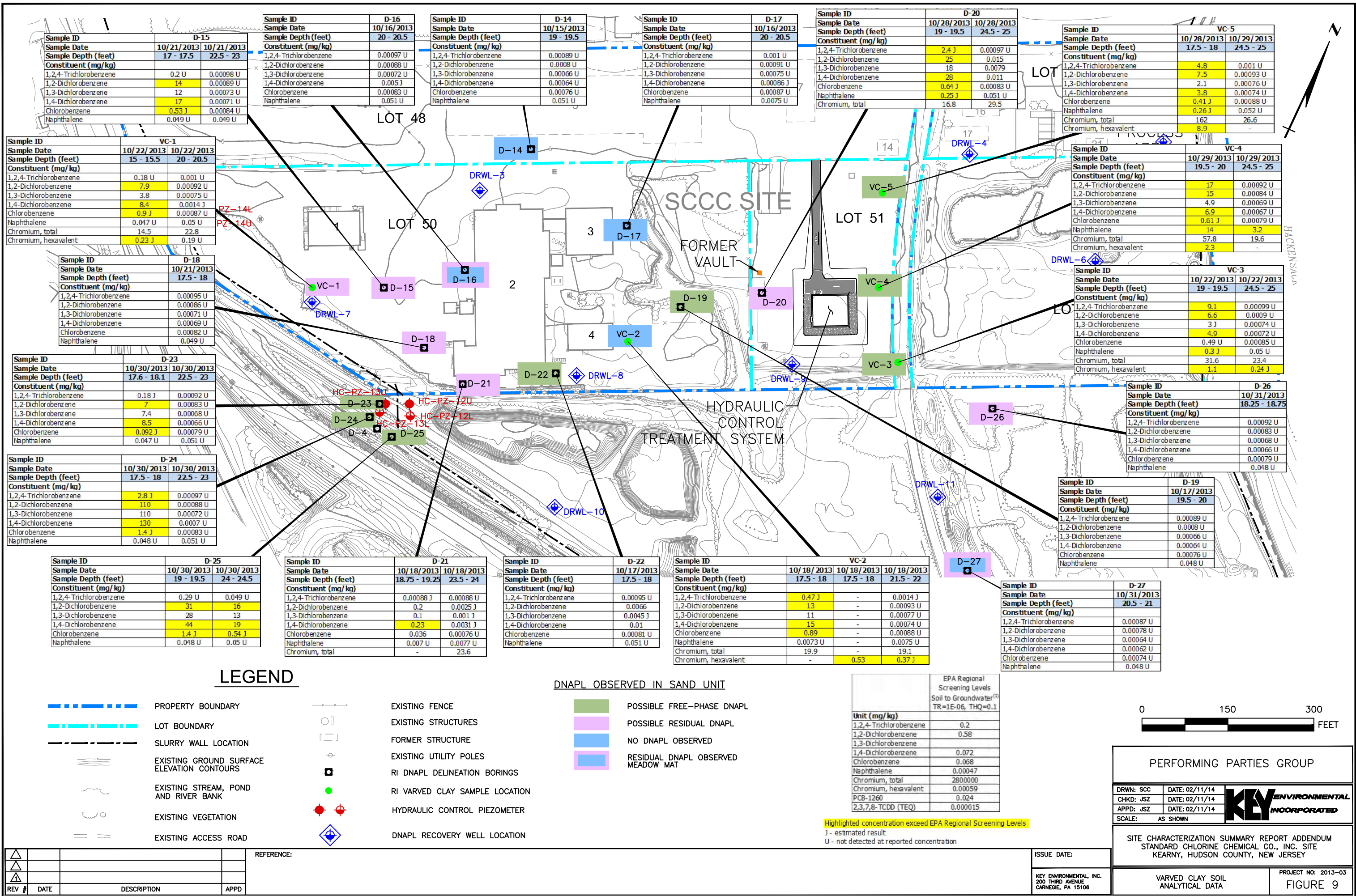
PERFORMING PARTIES GROUP		
DRWN: SCC	DATE: 02/11/14	
CHKD: BHL	DATE: 02/11/14	
APPD: TEJ	DATE: 02/11/14	
SITE CHARACTERIZATION SUMMARY REPORT ADDENDUM STANDARD CHLORINE CHEMICAL CO., INC. SITE KEARNY, HUDSON COUNTY, NEW JERSEY		
ISSUE DATE:	VARVED CLAY SURFACE ELEVATION CONTOUR MAP	PROJECT NO: 2013-03
KEY ENVIRONMENTAL, INC. 200 THIRD AVENUE CARNEGIE, PA 15106		FIGURE 8

△			
△			
△			
REV#	DATE	DESCRIPTION	APPD

REFERENCE:



Y:\000\keyenv\site characterization summary report addendum\figure 9.dwg Last Saved By: Scorer 3/28/2014 8:25 AM Plotted By: Shelly Comer 3/28/2014 3:35 PM Scale: 1:1



TABLES

45	Result exceeds relevant Regional Screening Level
Fill	Fill Material Sample
Mat	Meadow Mat Sample
Sand	Deep Sand Sample
Varved Clay	Varved Clay Sample

TABLE 1
ANALYTICAL SOIL SAMPLE SUMMARY
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNEY, NEW JERSEY

Boring No.	Depth	Stratum	DNAPL Observation	VOCs/SVOCs	Metals	Cr+6/Ph/ORP	PCBs	PCDD/PCDF
D-14	0 - 0.5 ft	Fill	None	X	X	X	X	X
	18.25 - 18.75 ft	Sand	None	X				
	19 - 19.5 ft	Clay	None	X				
D-15	0 - 0.5 ft	Fill	None	X	X	X	X	X
	16 - 16.5 ft	Sand	Residual	X			X	X
	17 - 17.5 ft	Clay	None	X				
	22.5 - 23 ft	Varved Clay	None	X				
D-16	0 - 0.5 ft	Fill	None	X	X	X	X	X
	9 - 9.5 ft	Mat	Residual	X			X	X
	15.75 - 16.25 ft	Sand	None	X				
	20 - 20.5 ft	Clay	None	X				
D-17	0 - 0.5 ft	Fill	None	X	X	X	X	X
	15.5 - 16 ft	Sand	None	X				
	20 - 20.5 ft	Clay	None	X				
D-18	0 - 0.5 ft	Fill	None	X	X	X	X	X
	16.5 - 17 ft	Sand	Residual	X			X	X
	17.5 - 18 ft	Clay	None	X				
D-19	0 - 0.5 ft	Fill	None	X	X	X	X	X
	17 - 17.5 ft	Sand	Free	X			X	X
	19.5 - 20 ft	Clay	None	X				
D-20	0 - 0.5 ft	Fill	None	X	X	X	X	X
	18 - 18.5 ft	Sand	Residual	X				
	19 - 19.5 ft	Clay	None	X	X			
	24.5 - 25 ft	Varved Clay	None	X	X			
D-21	7 - 7.5 ft	Fill	None	X	X	X	X	X
	17.6 - 18.1 ft	Sand	Residual	X			X	X
	18.75 - 19.25 ft	Clay	None	X				
	23.5 - 24 ft	Varved Clay	None	X	X			
D-22	0 - 0.5 ft	Fill	None	X	X	X	X	X
	16.3 - 16.8 ft	Sand	Free	X			X	X
	17.5 - 18 ft	Clay	None	X				
D-23	16.6 - 17.1 ft	Sand	Free	X				
	17.6 - 18.1 ft	Clay	None	X				
	22.5 - 23 ft	Varved Clay	None	X				
D-24	16.5 - 17 ft	Sand	Free	X			X	X
	17.5 - 18 ft	Clay	None	X				
	22.5 - 23 ft	Varved Clay	None	X				
D-25	18 - 18.5 ft	Sand	Residual/Free	X				
	19 - 19.5 ft	Clay	None	X				
	24 - 24.5 ft	Varved Clay	None	X				
D-26	17.25 - 17.75 ft	Sand	Residual	X				
	17.25 - 17.75 ft *	Sand	Residual	X				
	18.25 - 18.75	Clay	None	X				
D-27	10 - 10.5 ft	Fill	None	X				
	20 - 20.25 ft	Sand	None	X				
	20.5 - 21 ft	Clay	None	X				
VC-1	0 - 0.5 ft	Fill	None	X	X	X	X	X
	14 - 14.5 ft	Sand	Residual	X			X	X
	15 - 15.5 ft	Clay	None	X	X	X		
	15 - 15.5 ft *	Clay	None	X				
	20 - 20.5 ft	Varved Clay	None	X	X	X		
VC-2	0 - 0.5 ft	Fill	None	X	X	X	X	X
	0 - 0.5 ft *	Fill	None	X	X	X	X	X
	16.5 - 17 ft	Sand	None	X				
	17 - 18 ft	Clay	None	X	X			
	17.5 - 18 ft	Varved Clay	None			X		
VC-3	21.5 - 22 ft	Varved Clay	None	X	X	X		
	0 - 0.5 ft	Fill	None	X	X	X	X	X
	18.2 - 18.7 ft	Sand	Residual/Free	X			X	X
	19 - 19.5 ft	Clay	None	X	X	X		
VC-4	24.5 - 25 ft	Varved Clay	None	X	X	X		
	0 - 0.5 ft	Fill	None	X	X	X	X	X
	18.5 - 19 ft	Sand	Free	X			X	X
	18.5 - 19 ft *	Sand	Free	X			X	X
	19.5 - 20 ft	Clay	None	X	X	X		
VC-5	19.5 - 20 ft *	Clay	None		X	X		
	24.5 - 25 ft	Varved Clay	None	X	X			
	0 - 0.5 ft	Fill	None	X	X	X	X	X
	16.5 - 17 ft	Sand	Residual	X			X	X
	17.5 - 18 ft	Clay	None	X	X	X		
	24.5 - 25 ft	Varved Clay	None	X	X			

* Field Duplicate Sample

TABLE 2
MONITORING WELL ABANDONMENT
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

Well ID	Abandon Date	Total Well Depth at Installation (ft- bgs)	Total Depth Prior to Abandonment (ft- bgs)	Riser Stickup (ft)	Depth to Water (ft-toc)	Depth to Product (ft)	Product Thickness (ft)	Product Removed (gallons)	Comments (1)
SCCC Site Wells									
SC-MW-1L	10/19-20/2013	21	18.2	1.6	5.85	NP	NA	NA	Well grouted/abandoned (2)
SC-PZ-1U	10/19-20/2013	8	7.8	3.0	5.2	NP	NA	NA	Well grouted/abandoned
SC-PZ-1D	10/19-20/2013	16	15.9	2.8	4.95	NP	NA	NA	Well grouted/abandoned
SC-MW-15U	10/19-20/2013	6	6.4	1.6	4.08	NP	NA	NA	Well grouted/abandoned
SC-MW-15L	10/19-20/2013	16	15.6	1.7	4.06	NP	NA	NA	Well grouted/abandoned
SC-MW-2L	10/19-20/2013	18	18.0	2.2	4.83	NP	NA	NA	Well grouted/abandoned
SC-MW-5L	10/19-20/2013	17	15.8	3.2	1.27	NP	NA	NA	Well grouted/abandoned (2)
SC-PZ-3U	10/19-20/2013	8.5	7.2	2.7	4.58	NP	NA	NA	Well grouted/abandoned (2)
SC-PZ-3D	10/19-20/2013	17	16.0	3.2	5.03	NP	NA	NA	Well grouted/abandoned (2)
SC-MW-6L	10/19-20/2013	16	15.0	2.0	3.9	NP	NA	NA	Well grouted/abandoned (2)
SC-MW-7L	10/19-20/2013	16	14.6	1.6	3.71	NP	NA	NA	Well grouted/abandoned (2)
SC-PZ-4U	10/19-20/2013	8	2.8	2.7	Dry @ 5.5	NP	NA	NA	Well grouted/abandoned (3)
SC-PZ-2U	10/19-20/2013	8.25	7.9	2.7	6.21	NP	NA	NA	Well grouted/abandoned (2)
SC-PZ-2D	10/19-20/2013	16.5	16.3	2.7	6.17	NP	NA	NA	Well grouted/abandoned
SC-MW-4L	10/19-20/2013	18	17.7	1.2	4.86	NP	NA	NA	Well grouted/abandoned
SC-MW-3L	8/19-21/2013	18	18.9	1.3	2.09	17	3.2	2.5	Product removed prior to grouting/abandonment

Notes:

(1) Well decommissioned via tremie pipe from the bottom of the well. Borehole sealed in accordance with NJDEP regulations N.J.A.C. 7:9D

(2) Indicates well jetted down to original well installation depth prior to grouting

(3) Indicates well jetted through obstruction at 5.5 ft and down to original well installation depth prior to grouting

toc - depth to water measured from top of casing

bgs - below ground surface

toc - depth to water measured from top of casing

ft - feet

TABLE 3
SURFACE SOILS - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in	
			Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
chemical_name		Units	10/14/2013		10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013	
1,1,1-Trichloroethane	mg/kg	3800	< 0.00056	U	< 0.45	U	< 6.9	U	< 0.00042	U	< 0.22	U	< 2.6	U	< 0.00069	U	< 13	U	< 0.00057	U	< 0.00047	U
1,1,2,2-Tetrachloroethane	mg/kg	2.8	< 0.00083	U	< 0.41	U	< 6.2	U	< 0.00062	U	< 0.19	U	< 2.3	U	< 0.001	U	< 11	U	< 0.00084	U	< 0.00069	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	18000	< 0.0012	U	< 0.14	U	< 2.2	U	< 0.00091	U	< 0.069	U	< 0.82	U	< 0.0015	U	< 4	U	< 0.0012	U	< 0.001	U
1,1,2-Trichloroethane	mg/kg	0.68	< 0.00096	U	< 0.51	U	< 7.8	U	< 0.00071	U	< 0.24	U	< 2.9	U	< 0.0012	U	< 14	U	< 0.00097	U	< 0.0008	U
1,1-Dichloroethane	mg/kg	17	< 0.00066	U	< 0.44	U	< 6.8	U	< 0.00049	U	< 0.21	U	< 2.5	U	< 0.00082	U	< 12	U	< 0.00067	U	< 0.00055	U
1,1-Dichloroethene	mg/kg	110	< 0.00098	U	< 0.47	U	< 7.1	U	< 0.00073	U	< 0.22	U	< 2.7	U	< 0.0012	U	< 13	U	< 0.00099	U	< 0.00082	U
1,2,3-Trichlorobenzene	mg/kg	49	< 0.00097	U	< 0.28	U	< 4.2	U	< 0.00072	U	< 0.13	U	210		< 0.0012	U	< 7.7	U	< 0.00098	U	< 0.00081	U
1,2,4-Trichlorobenzene	mg/kg	27	< 0.001	U	< 0.17	U	< 2.5	U	0.00079	J	< 0.079	U	480		< 0.0013	U	< 4.6	U	< 0.001	U	< 0.00085	U
1,2-Dibromo-3-chloropropane	mg/kg	0.069	< 0.00086	U	< 0.15	U	< 2.4	U	< 0.00064	U	< 0.074	U	< 0.88	U	< 0.0011	U	< 4.3	U	< 0.00087	U	< 0.00072	U
1,2-Dibromoethane	mg/kg	0.17	< 0.00099	U	< 0.27	U	< 4.1	U	< 0.00074	U	< 0.13	U	< 1.5	U	< 0.0012	U	< 7.5	U	< 0.001	U	< 0.00083	U
1,2-Dichlorobenzene	mg/kg	980	< 0.00092	U	8.6		220		0.0012	J	15		38		< 0.0011	U	1000		< 0.00093	U	< 0.00077	U
1,2-Dichloroethane	mg/kg	2.2	< 0.00071	U	< 0.42	U	< 6.4	U	< 0.00053	U	< 0.2	U	< 2.4	U	< 0.00087	U	< 12	U	< 0.00071	U	< 0.00059	U
1,2-Dichloropropane	mg/kg	4.7	< 0.00062	U	< 0.56	U	< 8.5	U	< 0.00046	U	< 0.27	U	< 3.2	U	< 0.00077	U	< 16	U	< 0.00063	U	< 0.00052	U
1,3,5-Trichlorobenzene	mg/kg		< 0.0011	U	< 0.2	U	< 3.1	U	< 0.00083	U	< 0.097	U	< 1.2	U	< 0.0014	U	< 5.7	U	< 0.0011	U	< 0.00093	U
1,3-Dichlorobenzene	mg/kg		< 0.00075	U	18		200		0.00096	J	14		55		< 0.00093	U	1100		< 0.00076	U	< 0.00063	U
1,4-Dichlorobenzene	mg/kg	12	< 0.00073	U	45		360		0.0015	J	15		9.7	J	< 0.00091	U	2000		< 0.00074	U	< 0.00061	U
1,4-Dioxane	mg/kg	17	< 0.32	U	< 43	U	< 660	U	< 0.24	U	< 20	U	< 240	U	< 0.39	U	< 1200	U	< 0.32	U	< 0.27	U
2-Butanone	mg/kg	20000	< 0.001	U	< 0.48	U	< 7.3	U	< 0.00075	U	< 0.23	U	< 2.7	U	< 0.0013	U	< 13	U	< 0.001	U	< 0.00085	U
2-Hexanone	mg/kg	140	< 0.00079	U	< 0.25	U	< 3.8	U	< 0.00059	U	< 0.12	U	< 1.4	U	< 0.00098	U	< 7	U	< 0.0008	U	< 0.00066	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	5300	< 0.00075	U	< 0.26	U	< 4	U	< 0.00056	U	< 0.12	U	< 1.5	U	< 0.00093	U	< 7.2	U	< 0.00076	U	< 0.00063	U
Acetone	mg/kg	63000	< 0.0057	U	< 2.2	U	< 33	U	< 0.0043	U	< 1	U	< 12	U	< 0.0071	U	< 61	U	< 0.0058	U	< 0.0048	U
Benzene	mg/kg	5.4	< 0.00078	U	< 0.43	U	7.8	J	< 0.00058	U	< 0.21	U	< 2.5	U	< 0.00096	U	< 12	U	< 0.00078	U	< 0.00065	U
Bromochloromethane	mg/kg	68	< 0.00079	U	< 0.44	U	< 6.7	U	< 0.00059	U	< 0.21	U	< 2.5	U	< 0.00098	U	< 12	U	< 0.0008	U	< 0.00066	U
Bromodichloromethane	mg/kg	1.4	< 0.00065	U	< 0.41	U	< 6.2	U	< 0.00048	U	< 0.19	U	< 2.3	U	< 0.0008	U	< 11	U	< 0.00065	U	< 0.00054	U
Bromoform	mg/kg	220	< 0.00051	U	< 0.47	U	< 7.2	U	< 0.00038	U	< 0.22	U	< 2.7	U	< 0.00063	U	< 13	U	< 0.00051	U	< 0.00043	U
Bromomethane	mg/kg	3.2	< 0.00085	U	< 0.69	U	< 11	U	< 0.00063	U	< 0.33	U	< 3.9	U	< 0.0011	U	< 19	U	< 0.00086	U	< 0.00071	U
Carbon Disulfide	mg/kg	370	< 0.00059	U	< 0.47	U	< 7.2	U	< 0.00044	U	< 0.22	U	< 2.7	U	< 0.00073	U	< 13	U	< 0.0006	U	< 0.00049	U
Carbon Tetrachloride	mg/kg	3	< 0.00051	U	< 0.47	U	< 7.3	U	< 0.00038	U	< 0.23	U	< 2.7	U	< 0.00064	U	< 13	U	< 0.00052	U	< 0.00043	U
Chlorobenzene	mg/kg	140	< 0.00087	U	45		11	J	< 0.00065	U	5.1		< 1.3	U	< 0.0011	U	280		< 0.00088	U	< 0.00073	U
Chloroethane	mg/kg	6100	< 0.0018	U	< 0.33	U	< 5	U	< 0.0013	U	< 0.16	U	< 1.9	U	< 0.0022	U	< 9.1	U	< 0.0018	U	< 0.0015	U
Chloroform	mg/kg	1.5	0.00073	J	< 0.44	U	< 6.7	U	0.00064	U	< 0.21	U	< 2.5	U	0.00086	J	< 12	U	< 0.00068	U	< 0.00056	U
Chloromethane	mg/kg	50	< 0.00098	U	< 0.61	U	< 9.3	U	< 0.00073	U	< 0.29	U	< 3.5	U	< 0.0012	U	< 17	U	< 0.00099	U	< 0.00082	U
cis-1,2-Dichloroethene	mg/kg	200	< 0.00081	U	< 0.29	U	< 4.5	U	< 0.0006	U	< 0.14	U	< 1.7	U	< 0.001	U	< 8.1	U	< 0.00082	U	< 0.00068	U
cis-1,3-Dichloropropene	mg/kg	8.3*	< 0.00078	U	< 0.32	U	< 4.9	U	< 0.00058	U	< 0.15	U	< 1.8	U	< 0.00097	U	< 8.9	U	< 0.00079	U	< 0.00065	U
Cyclohexane	mg/kg	2900	< 0.00043	U	< 0.26	U	< 4	U	< 0.00032	U	< 0.12	U	< 1.5	U	< 0.00053	U	< 7.3	U	< 0.00043	U	< 0.00036	U
Dibromochloromethane	mg/kg	3.3	< 0.00082	U	< 0.28	U	< 4.3	U	< 0.00061	U	< 0.14	U	< 1.6	U	< 0.001	U	< 7.9	U	< 0.00082	U	< 0.00068	U
Dichlorodifluoromethane	mg/kg	40	< 0.00077	U	< 0.28	U	< 4.3	U	< 0.00057	U	< 0.13	U	< 1.6	U	< 0.00095	U	< 7.8	U	< 0.00077	U	< 0.00064	U
Ethylbenzene	mg/kg	27	< 0.00074	U	< 0.27	U	< 4.2															

TABLE 3
SURFACE SOILS - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	VC-2 0 - 6 in		VC-2 DUP 0 - 6 in		VC-3 0 - 6 in		VC-4 0 - 6 in		VC-5 0 - 6 in	
	sample depth		Fill		Fill		Fill		Fill		Fill	
	stratum		10/17/2013		10/17/2013		10/22/2013		10/29/2013		10/28/2013	
sample_date	Units											
1,1,1-Trichloroethane	mg/kg	3800	< 0.00067	U	< 0.00058	U	< 0.00061	U	< 0.00054	U	< 0.1	U
1,1,2,2-Tetrachloroethane	mg/kg	2.8	< 0.00099	U	< 0.00085	U	< 0.0009	U	< 0.0008	U	< 0.09	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	18000	< 0.0015	U	< 0.0013	U	< 0.0013	U	< 0.0012	U	< 0.032	U
1,1,2-Trichloroethane	mg/kg	0.68	< 0.0011	U	< 0.00099	U	< 0.001	U	< 0.00092	U	< 0.11	U
1,1-Dichloroethane	mg/kg	17	< 0.00079	U	< 0.00068	U	< 0.00072	U	< 0.00064	U	< 0.098	U
1,1-Dichloroethene	mg/kg	110	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00094	U	< 0.1	U
1,2,3-Trichlorobenzene	mg/kg	49	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00094	U	0.29	J
1,2,4-Trichlorobenzene	mg/kg	27	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00098	U	0.39	J
1,2-Dibromo-3-chloropropane	mg/kg	0.069	< 0.001	U	< 0.00089	U	< 0.00093	U	< 0.00083	U	< 0.034	U
1,2-Dibromoethane	mg/kg	0.17	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00096	U	< 0.059	U
1,2-Dichlorobenzene	mg/kg	980	< 0.0011	U	< 0.00095	U	< 0.001	U	< 0.00089	U	0.25	J
1,2-Dichloroethane	mg/kg	2.2	< 0.00085	U	< 0.00073	U	< 0.00077	U	< 0.00068	U	< 0.093	U
1,2-Dichloropropane	mg/kg	4.7	< 0.00075	U	< 0.00065	U	< 0.00068	U	< 0.0006	U	< 0.12	U
1,3,5-Trichlorobenzene	mg/kg		< 0.0013	U	< 0.0011	U	< 0.0012	U	< 0.0011	U	< 0.045	U
1,3-Dichlorobenzene	mg/kg		< 0.00091	U	< 0.00078	U	< 0.00082	U	< 0.00073	U	0.14	J
1,4-Dichlorobenzene	mg/kg	12	< 0.00088	U	< 0.00076	U	< 0.0008	U	< 0.00071	U	0.2	J
1,4-Dioxane	mg/kg	17	< 0.38	U	< 0.33	U	< 0.34	U	< 0.31	U	< 9.5	U
2-Butanone	mg/kg	20000	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00098	U	< 0.1	U
2-Hexanone	mg/kg	140	< 0.00095	U	< 0.00082	U	< 0.00086	U	< 0.00077	U	< 0.055	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	5300	< 0.0009	U	< 0.00078	U	< 0.00081	U	< 0.00072	U	< 0.057	U
Acetone	mg/kg	63000	< 0.0069	U	< 0.0059	U	< 0.0062	U	< 0.0056	U	< 0.48	U
Benzene	mg/kg	5.4	< 0.00093	U	< 0.0008	U	< 0.00084	U	< 0.00075	U	< 0.096	U
Bromochloromethane	mg/kg	68	< 0.00095	U	< 0.00082	U	< 0.00086	U	< 0.00076	U	< 0.097	U
Bromodichloromethane	mg/kg	1.4	< 0.00078	U	< 0.00067	U	< 0.0007	U	< 0.00062	U	< 0.09	U
Bromoform	mg/kg	220	< 0.00061	U	< 0.00053	U	< 0.00055	U	< 0.00049	U	< 0.1	U
Bromomethane	mg/kg	3.2	< 0.001	U	< 0.00088	U	< 0.00092	U	< 0.00082	U	< 0.15	U
Carbon Disulfide	mg/kg	370	< 0.00071	U	< 0.00061	U	< 0.00064	U	< 0.00057	U	< 0.1	U
Carbon Tetrachloride	mg/kg	3	< 0.00062	U	< 0.00053	U	< 0.00056	U	< 0.0005	U	< 0.1	U
Chlorobenzene	mg/kg	140	< 0.001	U	< 0.0009	U	< 0.00095	U	< 0.00084	U	< 0.051	U
Chloroethane	mg/kg	6100	< 0.0021	U	< 0.0018	U	< 0.0019	U	< 0.0017	U	< 0.072	U
Chloroform	mg/kg	1.5	< 0.00081	U	< 0.0007	U	< 0.00073	U	< 0.00065	U	< 0.098	U
Chloromethane	mg/kg	50	< 0.0012	U	< 0.001	U	< 0.0011	U	< 0.00095	U	< 0.13	U
cis-1,2-Dichloroethene	mg/kg	200	< 0.00097	U	< 0.00084	U	< 0.00088	U	< 0.00078	U	< 0.064	U
cis-1,3-Dichloropropene	mg/kg	8.3*	< 0.00094	U	< 0.00081	U	< 0.00085	U	< 0.00075	U	< 0.07	U
Cyclohexane	mg/kg	2900	< 0.00051	U	< 0.00044	U	< 0.00046	U	< 0.00041	U	< 0.058	U
Dibromochloromethane	mg/kg	3.3	< 0.00098	U	< 0.00084	U	< 0.00089	U	< 0.00079	U	< 0.063	U
Dichlorodifluoromethane	mg/kg	40	< 0.00092	U	< 0.00079	U	< 0.00083	U	< 0.00074	U	< 0.061	U
Ethylbenzene	mg/kg	27	< 0.00089	U	< 0.00076	U	< 0.0008	U	< 0.00071	U	< 0.06	U
Isopropylbenzene	mg/kg	1100	< 0.00094	U	< 0.00081	U	< 0.00085	U	< 0.00075	U	< 0.051	U
m,p-Xylenes	mg/kg	255**	< 0.002	U	< 0.0017	U	< 0.0018	U	< 0.0016	U	< 0.12	U
Methyl Acetate	mg/kg	100000	< 0.0012	U	< 0.0011	U	< 0.0011	U	< 0.001	U	< 0.12	U
Methyl tert_butyl ether	mg/kg	220	< 0.001	U	< 0.00089	U	< 0.00093	U	< 0.00083	U	< 0.099	U
Methylcyclohexane	mg/kg		< 0.001	U	< 0.00086	U	< 0.00091	U	< 0.00081	U	< 0.054	U
Methylene Chloride	mg/kg	310	0.0019	U	0.0019	U	0.0026	U	0.0025	U	0.11	J
o-Xylene	mg/kg	300	< 0.0011	U	< 0.00093	U	< 0.00097	U	< 0.00087	U	< 0.071	U
Styrene	mg/kg	3600	< 0.00097	U	< 0.00084	U	< 0.00088	U	< 0.00078	U	< 0.062	U
Tetrachloroethene	mg/kg	41	< 0.00094	U	< 0.00081	U	< 0.00085	U	< 0.00076	U	< 0.08	U
Toluene	mg/kg	4500	< 0.001	U	< 0.00087	U	< 0.00091	U	< 0.00081	U	< 0.082	U
trans-1,2-Dichloroethene	mg/kg	69	< 0.00082	U	< 0.00071	U	< 0.00074	U	< 0.00066	U	< 0.073	U
trans-1,3-Dichloropropene	mg/kg	8.3*	< 0.00083	U	< 0.00071	U	< 0.00075	U	< 0.00066	U	< 0.056	U
Trichloroethene	mg/kg	2	< 0.00091	U	< 0.00078	U	< 0.00082	U	< 0.00073	U	< 0.078	U
Trichlorofluoromethane	mg/kg	340	< 0.0013	U	< 0.0011	U	< 0.0011	U	< 0.001	U	< 0.11	U
Vinyl Chloride	mg/kg	1.7	< 0.00065	U	< 0.00056	U	< 0.00059	U	< 0.00052	U	< 0.12	U

Notes:

U - not detected at reported concentration

J - estimated result

* - value is for total 1,3-dichloropropene

** - value is average of m-xylene and p-xylene

TABLE 4
SURFACE SOILS - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in	
	sample depth		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
	stratum sample_date		10/14/2013		10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013	
chemical_name	Units																					
1,1'-Biphenyl	mg/kg	21	< 0.29	U	< 0.05	U	< 0.059	U	0.23	J	< 0.049	U	14		< 0.059	U	< 1.4	U	< 0.11	U	0.063	J
1,2,4,5-Tetrachlorobenzene	mg/kg	18	< 0.29	U	< 0.05	U	0.98		0.12	J	0.13	J	4.2		< 0.059	U	210		0.11	J	< 0.051	U
2,2'-Oxybis(1-Chloropropane)	mg/kg	22	< 0.24	U	< 0.041	U	< 0.049	U	< 0.032	U	< 0.041	U	< 0.01	U	< 0.049	U	< 0.33	U	< 0.093	U	< 0.042	U
2,3,4,6-Tetrachlorophenol	mg/kg	1800	< 0.28	U	< 0.048	U	< 0.058	U	< 0.096	U	< 0.048	U	< 0.03	U	< 0.057	U	< 0.98	U	< 0.11	U	< 0.049	U
2,4,5-Trichlorophenol	mg/kg	6200	< 0.28	U	< 0.048	U	< 0.057	U	< 0.16	U	< 0.048	U	< 0.05	U	< 0.057	U	< 1.6	U	< 0.11	U	< 0.049	U
2,4,6-Trichlorophenol	mg/kg	62	< 0.25	U	< 0.043	U	< 0.052	U	< 0.22	U	< 0.043	U	< 0.07	U	< 0.051	U	< 2.3	U	< 0.098	U	< 0.044	U
2,4-Dichlorophenol	mg/kg	180	< 0.32	U	< 0.054	U	0.34	J	< 0.03	U	< 0.054	U	0.047	J	< 0.064	U	4.3		< 0.12	U	< 0.055	U
2,4-Dimethylphenol	mg/kg	1200	< 0.53	U	< 0.091	U	< 0.11	U	< 0.23	U	< 0.091	U	< 0.073	U	< 0.11	U	< 2.4	U	< 0.21	U	< 0.093	U
2,4-Dinitrophenol	mg/kg	120	< 1.2	U	< 0.21	U	< 0.25	U	< 1.8	U	< 0.21	U	< 0.56	U	< 0.25	U	< 18	U	< 0.48	U	< 0.21	U
2,4-Dinitrotoluene	mg/kg	5.5	< 0.071	U	< 0.012	U	< 0.015	U	< 0.12	U	< 0.012	U	< 0.038	U	< 0.014	U	< 1.2	U	< 0.028	U	< 0.012	U
2,6-Dinitrotoluene	mg/kg	1.2	< 0.065	U	< 0.011	U	< 0.013	U	< 0.15	U	< 0.011	U	< 0.048	U	< 0.013	U	< 1.6	U	< 0.025	U	< 0.011	U
2-Chloronaphthalene	mg/kg	8200	< 0.24	U	< 0.041	U	< 0.049	U	< 0.031	U	< 0.041	U	< 0.0098	U	< 0.049	U	< 0.32	U	< 0.093	U	< 0.042	U
2-Chlorophenol	mg/kg	510	< 0.28	U	< 0.049	U	< 0.058	U	< 0.12	U	< 0.048	U	< 0.038	U	< 0.058	U	< 1.2	U	< 0.11	U	< 0.05	U
2-Methylnaphthalene	mg/kg	220	0.28	J	< 0.048	U	0.07	J	0.03	J	< 0.047	U	0.18		< 0.056	U	< 0.27	U	0.15	J	< 0.048	U
2-Methylphenol	mg/kg	3100	< 0.37	U	< 0.063	U	< 0.075	U	< 0.1	U	< 0.063	U	< 0.033	U	< 0.075	U	< 1.1	U	< 0.14	U	< 0.064	U
2-Nitroaniline	mg/kg	600	< 0.9	U	< 0.15	U	< 0.18	U	< 0.67	U	< 0.15	U	< 0.21	U	< 0.18	U	< 6.8	U	< 0.35	U	< 0.16	U
2-Nitrophenol	mg/kg		< 0.24	U	< 0.041	U	< 0.049	U	< 0.16	U	< 0.041	U	< 0.052	U	< 0.049	U	< 1.7	U	< 0.093	U	< 0.042	U
3,3'-Dichlorobenzidine	mg/kg	3.8	< 0.76	U	< 0.13	U	< 0.16	U	< 0.16	U	< 0.13	U	< 0.05	U	< 0.15	U	< 1.6	U	< 0.29	U	< 0.13	U
3-Nitroaniline	mg/kg		< 0.76	U	< 0.13	U	< 0.16	U	< 0.61	U	< 0.13	U	< 0.19	U	< 0.16	U	< 6.3	U	< 0.3	U	< 0.13	U
4,6-Dinitro-2-Methylphenol	mg/kg	4.9	< 0.59	U	< 0.1	U	< 0.12	U	< 0.6	U	< 0.1	U	< 0.19	U	< 0.12	U	< 6.1	U	< 0.23	U	< 0.1	U
4-Bromophenyl-phenylether	mg/kg		< 0.21	U	< 0.037	U	< 0.044	U	< 0.13	U	< 0.037	U	< 0.041	U	< 0.043	U	< 1.3	U	< 0.083	U	< 0.037	U
4-Chloro-3-methylphenol	mg/kg	6200	< 0.33	U	< 0.056	U	< 0.067	U	< 0.14	U	< 0.056	U	< 0.043	U	< 0.066	U	< 1.4	U	< 0.13	U	< 0.057	U
4-Chloroaniline	mg/kg	8.6	< 0.57	U	< 0.098	U	< 0.12	U	< 0.12	U	< 0.098	U	< 0.038	U	< 0.12	U	< 1.2	U	< 0.22	U	< 0.1	U
4-Chlorophenyl-phenylether	mg/kg		< 0.25	U	< 0.043	U	< 0.052	U	< 0.17	U	< 0.043	U	< 0.052	U	< 0.051	U	< 1.7	U	< 0.098	U	< 0.044	U
4-Methylphenol	mg/kg	6200	< 0.42	U	< 0.073	U	< 0.087	U	< 0.15	U	< 0.072	U	< 0.046	U	< 0.086	U	< 1.5	U	< 0.16	U	< 0.074	U
4-Nitroaniline	mg/kg	86	< 0.67	U	< 0.12	U	< 0.14	U	< 0.6	U	< 0.11	U	< 0.19	U	< 0.14	U	< 6.2	U	< 0.26	U	< 0.12	U
4-Nitrophenol	mg/kg		< 1.4	U	< 0.24	U	< 0.28	U	< 0.54	U	< 0.24	U	< 0.17	U	< 0.28	U	< 5.6	U	< 0.54	U	< 0.24	U
Acenaphthene	mg/kg	3300	1.4	J	< 0.054	U	< 0.064	U	0.039	J	< 0.054	U	0.087	J	0.068	J	< 0.29	U	< 0.12	U	< 0.055	U
Acenaphthylene	mg/kg		< 0.25	U	< 0.044	U	< 0.052	U	< 0.034	U	< 0.044	U	0.034	J	< 0.052	U	< 0.35	U	< 0.099	U	< 0.045	U
Acetophenone	mg/kg	10000	< 0.33	U	< 0.057	U	< 0.068	U	< 0.12	U	< 0.057	U	< 0.039	U	< 0.067	U	< 1.3	U	< 0.13	U	< 0.058	U
Anthracene	mg/kg	17000	1.5	J	< 0.045	U	< 0.054	U	0.073	J	0.085	J	0.1		0.13	J	< 0.3	U	0.22	J	< 0.046	U
Atrazine	mg/kg	7.5	< 0.33	U	< 0.057	U	< 0.068	U	< 0.14	U	< 0.057	U	< 0.046	U	< 0.068	U	< 1.5	U	< 0.13	U	< 0.058	U
Benzaldehyde	mg/kg	10000	< 0.25	U	< 0.044	U	< 0.052	U	< 0.22	U	< 0.043	U	< 0.07	U	< 0.052	U	< 2.3	U	< 0.098	U	< 0.044	U
Benzo(a)anthracene	mg/kg	2.1	9.3		0.12		0.073		0.5		0.56		0.8		0.91		< 0.38	U	1.2		0.2	
Benzo(a)pyrene	mg/kg	0.21	17		0.16		0.054		0.63		0.98		0.8		1.4		< 0.3	U	1.6		0.33	
Benzo(b)fluoranthene	mg/kg	2.1	19		0.31		0.068		0.78		1.4		1.4		1.5		< 0.48	U	2.1		0.42	
Benzo(g,h,i)perylene	mg/kg		23		0.091	J	0.051	J	0.74		0.36	J	1.2		1.7		< 0.3	U	1.7		0.47	
Benzo(k)fluoranthene	mg/kg	21	6.4		0.13		< 0.0034	U	0.37		0.6		0.58		0.68		< 0.62	U	0.79		0.14	
bis(2-Chloroethoxy) Methane	mg/kg	180	< 0.28	U	< 0.048	U	< 0.057	U	< 0.098	U	< 0.048	U	< 0.031	U	< 0.057	U	< 1	U	< 0.11	U	< 0.049	U
Bis-(2-Chloroethyl) Ether	mg/kg	1	< 0.029	U	< 0.005	U	< 0.006	U	< 0.04	U	< 0.005	U	< 0.013	U	< 0.006	U	< 0.41	U	< 0.011	U	< 0.0051	U
bis(2-Ethylhexyl)phthalate	mg/kg	120	< 0.72	U	< 0.12	U	0.24	J	< 0.24	U	0.28	J	0.32	J	< 0.15	U	< 2.5	U	< 0.28	U	< 0.13	U
Butylbenzylphthalate	mg/kg	910	< 0.2	U	< 0.034	U	< 0.041	U	< 0.2	U	< 0.034	U	< 0.064	U	< 0.04	U	< 2.1	U	< 0.077	U	< 0.035	U
Caprolactum	mg/kg	30000	< 0.5	U	< 0.085	U	< 0.1	U	< 1.1	U	< 0.085	U	< 0.35	U	< 0.1	U	< 11	U	< 0.19	U	< 0.087	U
Carbazole	mg/kg		0.99	J	< 0.044	U	< 0.052	U	< 0.027	U	0.062	J	< 0.0087	U	0.08	J	< 0.28	U	0.11	J	< 0.045	U
Chrysene	mg/kg	210	11		0.16	J	0.12	J	0.61		0.74		1.1		1		< 0.36	U	1.5		0.31	J
Dibenz(a,h)anthracene	mg/kg	0.21	3.5		0.026	J	0.01	J	0.12	J	0.097		0.29		0.19		< 0.34	U	0.34		0.065	
Dibenzofuran	mg/kg	100	0.39	J	< 0.043	U	< 0.052	U	< 0.15	U	< 0.043	U	0.91		< 0.051	U	< 1.5	U	< 0.098	U	< 0.044	U
Diethylphthalate	mg/kg	49000	< 0.26	U	< 0.044	U	< 0.053	U	< 0.16	U	0.06	J	< 0.051	U	< 0.052	U	< 1.7	U	< 0.1	U	< 0.045	U
Dimethylphthalate	mg/kg		< 0.26	U	< 0.044	U	< 0.052	U	< 0.16	U	< 0.044	U	< 0.051	U	< 0.052	U	< 1.7	U	0.29	J	< 0.045	U
Di-n-Butylphthalate	mg/kg	6200	< 0.27	U	< 0.046	U	< 0.055	U	< 0.19	U	0.049	J	< 0.059	U	< 0.054	U	< 1.9	U	0.54	J	< 0.046	U
Di-n-Octyl phthalate	mg/kg	620	< 0.14	U	< 0.024	U	< 0.028	U	< 0.16	U	< 0.023	U	< 0.05	U	< 0.028	U	< 1.6	U	< 0.053	U	< 0.024	U
Fluoranthene	mg/kg	2200	12		0.21	J	0.11	J	0.71		0.87		1.3		1.2		0.77	J	1.5		0.25	J
Fluorene	mg/kg	2200	0.65	J	< 0.047	U	< 0.057	U	< 0.039	U	< 0.047	U	0.078	J	< 0.056	U	< 0.4	U	< 0.11	U	< 0.048	U
Hexachlorobenzene	mg/kg	1.1	< 0.029	U	< 0.0051	U	0.0098	J	< 0.032	U	0.089		0.095		< 0.006	U	< 0.32	U	0.088		0.042	

TABLE 4 SURFACE SOILS - SEMIVOLATILE ORGANIC COMPOUNDS STANDARD CHLORINE CHEMICAL CO. INC. SITE KEARNY, NEW JERSEY																						
chemical_name	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in	
	sample depth		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
	stratum		10/14/2013		10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013	
sample_date	Units																					
Hexachlorobutadiene	mg/kg	22	< 0.053	U	< 0.009	U	< 0.011	U	< 0.033	U	< 0.009	U	0.027	J	< 0.011	U	< 0.34	U	< 0.02	U	< 0.0092	U
Hexachlorocyclopentadiene	mg/kg	370	< 0.25	U	< 0.044	U	< 0.052	U	< 0.16	U	< 0.043	U	< 0.051	U	< 0.052	U	< 1.6	U	< 0.098	U	< 0.044	U
Hexachloroethane	mg/kg	43	< 0.024	U	< 0.0041	U	< 0.0049	U	< 0.11	U	< 0.0041	U	< 0.034	U	< 0.0049	U	< 1.1	U	< 0.0093	U	< 0.0042	U
Indeno(1,2,3-cd)pyrene	mg/kg	2.1	21		0.092		0.046		0.57		0.39		0.93		1.7		< 0.31	U	1.9		0.38	
Isophorone	mg/kg	1800	< 0.26	U	< 0.045	U	< 0.054	U	< 0.11	U	< 0.045	U	< 0.035	U	< 0.053	U	< 1.1	U	< 0.1	U	< 0.046	U
Naphthalene	mg/kg	18	2	J	< 0.043	U	0.28	J	0.12	J	0.044	J	0.18		0.27	J	0.77	J	1.2		0.13	J
Nitrobenzene	mg/kg	24	< 0.031	U	< 0.0053	U	< 0.0063	U	< 0.12	U	< 0.0052	U	< 0.039	U	< 0.0062	U	< 1.3	U	< 0.012	U	< 0.0054	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.25	< 0.036	U	< 0.0062	U	< 0.0074	U	< 0.035	U	< 0.0061	U	< 0.011	U	< 0.0073	U	< 0.36	U	< 0.014	U	< 0.0063	U
N-Nitrosodiphenylamine	mg/kg	350	< 0.21	U	< 0.036	U	< 0.044	U	< 0.14	U	< 0.036	U	< 0.044	U	< 0.043	U	< 1.4	U	< 0.082	U	< 0.037	U
Pentachlorophenol	mg/kg	2.7	< 0.64	U	< 0.11	U	< 0.13	U	< 0.13	U	< 0.11	U	< 0.042	U	< 0.13	U	< 1.4	U	< 0.25	U	< 0.11	U
Phenanthrene	mg/kg		7.5		0.089	J	0.14	J	0.36		0.37		0.74		0.54		0.75	J	0.85		0.2	J
Phenol	mg/kg	18000	< 0.29	U	< 0.05	U	< 0.059	U	< 0.035	U	< 0.049	U	< 0.011	U	< 0.059	U	< 0.36	U	< 0.11	U	< 0.051	U
Pyrene	mg/kg	1700	14		0.14	J	0.18	J	0.74		0.61		1		0.81		0.46	J	1.3		0.24	J

Notes:
 U - not detected at reported concentration
 J - estimated result

TABLE 4
SURFACE SOILS - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	VC-2		VC-2 DUP		VC-3		VC-4		VC-5	
	sample depth		0 - 6 in		0 - 6 in		0 - 6 in		0 - 6 in		0 - 6 in	
	stratum		Fill		Fill		Fill		Fill		Fill	
sample_date	Units		10/17/2013		10/17/2013		10/22/2013		10/29/2013		10/28/2013	
1,1'-Biphenyl	mg/kg	21	0.21	J	0.27	J	< 0.065	U	< 0.054	U	0.071	J
1,2,4,5-Tetrachlorobenzene	mg/kg	18	< 0.056	U	< 0.054	U	< 0.065	U	0.097	J	< 0.058	U
2,2'-Oxybis(1-Chloropropane)	mg/kg	22	< 0.046	U	< 0.045	U	< 0.053	U	< 0.045	U	< 0.047	U
2,3,4,6-Tetrachlorophenol	mg/kg	1800	< 0.054	U	< 0.053	U	< 0.063	U	< 0.053	U	< 0.056	U
2,4,5-Trichlorophenol	mg/kg	6200	< 0.054	U	< 0.052	U	< 0.062	U	< 0.052	U	< 0.055	U
2,4,6-Trichlorophenol	mg/kg	62	< 0.049	U	< 0.047	U	< 0.056	U	< 0.047	U	< 0.05	U
2,4-Dichlorophenol	mg/kg	180	< 0.061	U	< 0.059	U	< 0.071	U	< 0.059	U	< 0.063	U
2,4-Dimethylphenol	mg/kg	1200	< 0.1	U	< 0.1	U	< 0.12	U	< 0.1	U	< 0.11	U
2,4-Dinitrophenol	mg/kg	120	< 0.24	U	< 0.23	U	< 0.27	U	< 0.23	U	< 0.24	U
2,4-Dinitrotoluene	mg/kg	5.5	< 0.014	U	< 0.013	U	< 0.016	U	< 0.013	U	< 0.014	U
2,6-Dinitrotoluene	mg/kg	1.2	< 0.013	U	< 0.012	U	< 0.015	U	< 0.012	U	< 0.013	U
2-Chloronaphthalene	mg/kg	8200	< 0.046	U	< 0.045	U	< 0.054	U	< 0.045	U	< 0.048	U
2-Chlorophenol	mg/kg	510	< 0.055	U	< 0.053	U	< 0.063	U	< 0.053	U	< 0.056	U
2-Methylnaphthalene	mg/kg	220	0.27	J	0.39	J	< 0.062	U	0.28	J	0.54	
2-Methylphenol	mg/kg	3100	< 0.071	U	< 0.069	U	< 0.082	U	< 0.069	U	< 0.073	U
2-Nitroaniline	mg/kg	600	< 0.17	U	< 0.17	U	< 0.2	U	< 0.17	U	< 0.18	U
2-Nitrophenol	mg/kg		< 0.046	U	< 0.045	U	< 0.054	U	< 0.045	U	< 0.048	U
3,3'-Dichlorobenzidine	mg/kg	3.8	< 0.15	U	< 0.14	U	< 0.17	U	< 0.14	U	< 0.15	U
3-Nitroaniline	mg/kg		< 0.15	U	< 0.14	U	< 0.17	U	< 0.14	U	< 0.15	U
4,6-Dinitro-2-Methylphenol	mg/kg	4.9	< 0.11	U	< 0.11	U	< 0.13	U	< 0.11	U	< 0.12	U
4-Bromophenyl-phenylether	mg/kg		< 0.041	U	< 0.04	U	< 0.048	U	< 0.04	U	< 0.043	U
4-Chloro-3-methylphenol	mg/kg	6200	< 0.063	U	< 0.061	U	< 0.073	U	< 0.061	U	< 0.065	U
4-Chloroaniline	mg/kg	8.6	< 0.11	U	< 0.11	U	< 0.13	U	< 0.11	U	< 0.11	U
4-Chlorophenyl-phenylether	mg/kg		< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.05	U
4-Methylphenol	mg/kg	6200	< 0.082	U	< 0.08	U	< 0.095	U	< 0.08	U	< 0.084	U
4-Nitroaniline	mg/kg	86	< 0.13	U	< 0.13	U	< 0.15	U	< 0.13	U	< 0.13	U
4-Nitrophenol	mg/kg		< 0.27	U	< 0.26	U	< 0.31	U	< 0.26	U	< 0.28	U
Acenaphthene	mg/kg	3300	< 0.061	U	< 0.059	U	< 0.07	U	0.99		0.1	J
Acenaphthylene	mg/kg		< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.051	U
Acetophenone	mg/kg	10000	0.12	J	0.29	J	< 0.074	U	< 0.062	U	< 0.066	U
Anthracene	mg/kg	17000	< 0.051	U	< 0.049	U	0.11	J	1.1		< 0.052	U
Atrazine	mg/kg	7.5	< 0.064	U	< 0.063	U	< 0.075	U	< 0.063	U	< 0.066	U
Benzaldehyde	mg/kg	10000	< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.05	U
Benzo(a)anthracene	mg/kg	2.1	0.23		0.13		1.2		0.25		0.073	
Benzo(a)pyrene	mg/kg	0.21	0.27	J	0.18	J	1.5		0.28		0.03	J
Benzo(b)fluoranthene	mg/kg	2.1	0.59		0.41		2.2		0.4		0.082	
Benzo(g,h,i)perylene	mg/kg		0.44		0.34	J	1.3		0.23	J	0.04	J
Benzo(k)fluoranthene	mg/kg	21	0.18	J	0.096	J	0.87		0.2		0.048	
bis(2-Chloroethoxy) Methane	mg/kg	180	< 0.054	U	< 0.052	U	< 0.062	U	< 0.052	U	< 0.055	U
Bis-(2-Chloroethyl) Ether	mg/kg	1	< 0.0057	U	< 0.0055	U	< 0.0066	U	< 0.0055	U	< 0.0058	U
bis(2-Ethylhexyl)phthalate	mg/kg	120	< 0.14	U	< 0.13	U	< 0.16	U	0.6		< 0.14	U
Butylbenzylphthalate	mg/kg	910	< 0.038	U	< 0.037	U	< 0.044	U	< 0.037	U	< 0.039	U
Caprolactum	mg/kg	30000	< 0.096	U	< 0.093	U	< 0.11	U	< 0.094	U	< 0.099	U
Carbazole	mg/kg		< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.051	U
Chrysene	mg/kg	210	0.53		0.48		1.6		0.38	J	0.11	J
Dibenz(a,h)anthracene	mg/kg	0.21	0.091		0.083		0.26		0.058		0.012	J
Dibenzofuran	mg/kg	100	< 0.049	U	< 0.048	U	< 0.057	U	1.2		0.12	J
Diethylphthalate	mg/kg	49000	< 0.05	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.051	U
Dimethylphthalate	mg/kg		< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.051	U
Di-n-Butylphthalate	mg/kg	6200	0.14	J	< 0.05	U	< 0.06	U	< 0.05	U	< 0.053	U
Di-n-Octyl phthalate	mg/kg	620	< 0.027	U	< 0.026	U	< 0.031	U	< 0.026	U	< 0.027	U
Fluoranthene	mg/kg	2200	0.32	J	0.17	J	1		1.6		0.069	J
Fluorene	mg/kg	2200	< 0.053	U	0.053	J	< 0.062	U	0.8		< 0.055	U
Hexachlorobenzene	mg/kg	1.1	< 0.0057	U	< 0.0055	U	0.029	J	< 0.0055	U	0.015	J

TABLE 4
SURFACE SOILS - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	VC-2 0 - 6 in		VC-2 DUP 0 - 6 in		VC-3 0 - 6 in		VC-4 0 - 6 in		VC-5 0 - 6 in	
sample depth	stratum		Fill		Fill		Fill		Fill		Fill	
sample_date			10/17/2013		10/17/2013		10/22/2013		10/29/2013		10/28/2013	
chemical_name			Units									
Hexachlorobutadiene	mg/kg	22	< 0.01	U	< 0.0099	U	< 0.012	U	< 0.0099	U	< 0.01	U
Hexachlorocyclopentadiene	mg/kg	370	< 0.049	U	< 0.048	U	< 0.057	U	< 0.048	U	< 0.05	U
Hexachloroethane	mg/kg	43	< 0.0046	U	< 0.0045	U	< 0.0054	U	< 0.0045	U	< 0.0048	U
Indeno(1,2,3-cd)pyrene	mg/kg	2.1	0.44		0.32		1.2		0.22		0.032	J
Isophorone	mg/kg	1800	< 0.051	U	< 0.049	U	< 0.058	U	< 0.049	U	< 0.052	U
Naphthalene	mg/kg	18	0.41	J	0.3	J	0.2	J	0.57		1.3	
Nitrobenzene	mg/kg	24	< 0.0059	U	< 0.0058	U	< 0.0069	U	< 0.0058	U	< 0.0061	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.25	< 0.007	U	< 0.0068	U	< 0.0081	U	< 0.0068	U	< 0.0072	U
N-Nitrosodiphenylamine	mg/kg	350	< 0.041	U	< 0.04	U	< 0.048	U	< 0.04	U	< 0.042	U
Pentachlorophenol	mg/kg	2.7	< 0.12	U	< 0.12	U	< 0.14	U	< 0.12	U	< 0.13	U
Phenanthrene	mg/kg		0.36	J	0.38	J	0.25	J	6.8		0.058	J
Phenol	mg/kg	18000	< 0.056	U	< 0.054	U	< 0.065	U	< 0.054	U	< 0.058	U
Pyrene	mg/kg	1700	0.28	J	0.18	J	1.3		0.99		0.16	J

Notes:
U - not detected at reported concentration
J - estimated result

TABLE 5
SURFACE SOILS - METALS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in	
	sample depth		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
	stratum		10/14/2013		10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013	
sample_date		Units																				
Aluminum	mg/kg	99000	20600		13700		21600		17000		10400		25500		24800		6160		2030		16800	
Antimony	mg/kg	41	8.3		< 3.2	U	< 6.3	U	13.8		< 3.1	U	< 8.4	U	< 34.3	U	4	J	202		3.5	J
Arsenic	mg/kg	2.4	17.6		4.1		< 4.8	U	< 4.8	U	4.3		17.7		< 26	U	32.7		5.1		3.4	
Barium	mg/kg	19000	71.8	J	55.8		60.8	J	52.8	J	27.5	J	4210		40.4	J	101	J	235		114	
Beryllium	mg/kg	200	1.5		2.5		2.3		1.8	J	0.38	J	< 0.98	U	< 4	U	0.44	J	< 0.42	U	0.93	J
Cadmium	mg/kg	9300	0.65	J	< 0.15	U	1.5	J	< 0.76	U	< 0.15	U	5.1	J	< 4.1	U	0.71	J	< 0.43	U	2.1	J
Calcium	mg/kg		68200		19300		81800		75500		5490		23200		159000		7070		938	J	30500	
Chromium	mg/kg	150000	3830		869		8320		4760		554		780		15600		152		90.3		1370	
Chromium, hexavalent	mg/kg	5.6	3.8	J	128	J	3390	J	355	J	13.1	J	0.54	J	258	J	0.83	J	2.8	J	32.7	J
Cobalt	mg/kg	30	159		39		179		168		13.9		13.7	J	120	J	4.4	J	< 2.5	U	51.6	
Copper	mg/kg	4100	39.5		278		19.7	J	82.6		118		230		< 53.6	U	165		84.9		181	
Iron	mg/kg	72000	96400		49400		105000		101000		57600		198000		62500		23300		7060		48500	
Lead	mg/kg	800	247		64.4		234		649		70.3		2930		84.6		224		57300		226	
Magnesium	mg/kg		51900		14600		68200		62800		6010		3280	J	64700		1830	J	723	J	19400	
Manganese	mg/kg	2300	928		537		959		954		313		769		625		771		21.7		568	
Mercury	mg/kg	4.3	1.7		0.034		0.034		0.041		0.024		0.13		0.25		0.44		0.26		0.13	
Nickel	mg/kg	2000	566		137		623		577		47.8		78.2		578		52.7		9	J	175	
Potassium	mg/kg		< 326	U	423	J	< 547	U	< 547	U	265	J	1500	J	< 2960	U	726	J	< 313	U	464	J
Selenium	mg/kg	510	4.2	J	< 1.4	U	< 6.7	U	< 6.7	U	< 1.3	U	< 8.9	U	< 36.5	U	5.1	J	< 3.9	U	< 3.6	U
Silver	mg/kg	510	< 0.61	U	< 0.21	U	< 1	U	< 1	U	< 0.2	U	< 1.4	U	< 5.5	U	< 0.6	U	1.3	J	< 0.54	U
Sodium	mg/kg		< 482	U	1440		< 808	U	< 808	U	629	J	1250	J	< 4370	U	538	J	< 462	U	772	J
Thallium	mg/kg	1	< 3.4	U	< 1.2	U	< 5.8	U	< 5.8	U	< 1.1	U	< 7.7	U	< 31.2	U	< 3.4	U	< 3.3	U	< 3	U
Vanadium	mg/kg	510	1540		330		1670		1310		145		93.9		751		23.1	J	14.9	J	521	
Zinc	mg/kg	31000	391		208		420		360		105		45300		216		128		112		1870	

Notes:

U - not detected at reported concentration
J - estimated result

TABLE 5
SURFACE SOILS - METALS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	VC-2	VC-2 DUP	VC-3	VC-4	VC-5
			0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in	0 - 6 in
			Fill	Fill	Fill	Fill	Fill
			10/17/2013	10/17/2013	10/22/2013	10/29/2013	10/28/2013
	Units						
Aluminum	mg/kg	99000	3350	2870	29500	24800	24900
Antimony	mg/kg	41	< 1.5	U	53.6	J	< 15.3
Arsenic	mg/kg	2.4	11.1	9.8	< 32.7	U	< 11.6
Barium	mg/kg	19000	44.9	J	53.8	J	19.3
Beryllium	mg/kg	200	0.81	0.63	< 5	U	2
Cadmium	mg/kg	9300	< 0.17	U	< 5.1	U	< 1.8
Calcium	mg/kg		2640	2170	146000	61700	80000
Chromium	mg/kg	150000	30.3	J	21400	3150	4130
Chromium, hexavalent	mg/kg	5.6	12.4	J	1760	J	439
Cobalt	mg/kg	30	2.7	J	129	J	221
Copper	mg/kg	4100	19.2	31.1	< 67.4	U	< 24
Iron	mg/kg	72000	11100	9120	67100	96700	111000
Lead	mg/kg	800	455	J	1650	J	18.5
Magnesium	mg/kg		251	J	208	J	89700
Manganese	mg/kg	2300	8.2	10.1	626	690	913
Mercury	mg/kg	4.3	0.22	0.36	0.063	0.24	0.27
Nickel	mg/kg	2000	8.5	J	7.6	J	881
Potassium	mg/kg		177	J	194	J	< 1320
Selenium	mg/kg	510	< 1.6	U	1.8	J	< 16.3
Silver	mg/kg	510	< 0.24	U	< 0.23	U	< 2.5
Sodium	mg/kg		190	J	188	J	< 1960
Thallium	mg/kg	1	< 1.3	U	< 1.3	U	< 14
Vanadium	mg/kg	510	12.9	13.8	580	1000	1380
Zinc	mg/kg	31000	22.5	36	251	317	369

Notes:
U - not detected at reported concentration
J - estimated result

TABLE 6
SURFACE SOILS – PCBs
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in		VC-2 0 - 6 in		VC-2 DUP 0 - 6 in		VC-3 0 - 6 in		VC-4 0 - 6 in		VC-5 0 - 6 in	
			Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
10/14/2013			10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013		10/17/2013		10/17/2013		10/22/2013		10/29/2013		10/28/2013			
chemical_name	Units																															
PCB-1016	mg/kg	21	< 0.02	U	< 0.017	U	< 0.02	U	< 0.017	U	< 0.084	U	< 0.021	U	< 0.02	U	< 0.046	U	< 0.019	U	< 0.017	U	< 0.019	U	< 0.018	U	< 0.022	U	< 0.018	U	< 0.019	U
PCB-1221	mg/kg	0.54	< 0.02	U	< 0.017	U	< 0.02	U	< 0.017	U	< 0.084	U	< 0.021	U	< 0.02	U	< 0.046	U	< 0.019	U	< 0.017	U	< 0.019	U	< 0.018	U	< 0.022	U	< 0.018	U	< 0.019	U
PCB-1232	mg/kg	0.54	< 0.02	U	< 0.017	U	< 0.02	U	< 0.017	U	< 0.084	U	< 0.021	U	< 0.02	U	< 0.046	U	< 0.019	U	< 0.017	U	< 0.019	U	< 0.018	U	< 0.022	U	< 0.018	U	< 0.019	U
PCB-1242	mg/kg	0.74	< 0.02	U	< 0.017	U	< 0.02	U	< 0.017	U	< 0.084	U	< 0.021	U	< 0.02	U	< 0.046	U	< 0.019	U	< 0.017	U	< 0.019	U	< 0.018	U	< 0.022	U	< 0.018	U	< 0.019	U
PCB-1248	mg/kg	0.74	< 0.02	U	< 0.017	U	< 0.02	U	< 0.017	U	< 0.084	U	< 0.021	U	< 0.02	U	< 0.046	U	< 0.019	U	< 0.017	U	< 0.019	U	< 0.018	U	< 0.022	U	< 0.018	U	< 0.019	U
PCB-1254	mg/kg	0.74	< 0.025	U	< 0.021	U	< 0.025	U	< 0.021	U	< 0.11	U	< 0.027	U	< 0.025	U	< 0.058	U	< 0.024	U	< 0.022	U	< 0.024	U	< 0.023	U	< 0.028	U	< 0.023	U	< 0.025	U
PCB-1260	mg/kg	0.74	< 0.025	U	0.084		< 0.025	U	< 0.021	U	4.2		< 0.027	U	< 0.025	U	< 0.058	U	< 0.024	U	< 0.022	U	< 0.024	U	< 0.023	U	< 0.028	U	< 0.023	U	< 0.025	U
PCB-1262	mg/kg		< 0.025	U	< 0.021	U	< 0.025	U	< 0.021	U	< 0.11	U	< 0.027	U	< 0.025	U	< 0.058	U	< 0.024	U	< 0.022	U	< 0.024	U	< 0.023	U	< 0.028	U	< 0.023	U	< 0.025	U
PCB-1268	mg/kg		< 0.025	U	< 0.021	U	< 0.025	U	< 0.021	U	< 0.11	U	< 0.027	U	< 0.025	U	< 0.058	U	< 0.024	U	< 0.022	U	< 0.024	U	< 0.023	U	< 0.028	U	< 0.023	U	< 0.025	U

Notes:
U - not detected at reported concentration

TABLE 7
SURFACE SOILS - PCDD/PCDF
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		TEFs	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	D-14 0 - 6 in		D-15 0 - 6 in		D-16 0 - 6 in		D-17 0 - 6 in		D-18 0 - 6 in		D-19 0 - 6 in		D-20 0 - 6 in		D-21 7 - 7.5 ft		D-22 0 - 6 in		VC-1 0 - 6 in	
				Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill		Fill	
chemical_name	Units			10/14/2013		10/21/2013		10/15/2013		10/16/2013		10/21/2013		10/16/2013		10/28/2013		10/18/2013		10/17/2013		10/22/2013	
1,2,3,4,6,7,8-HpCDD	pg/g	0.01		215		30.5	J	55.9		242		172		19300		40.9		21.6	J	244		80.3	
1,2,3,4,6,7,8-HpCDF	pg/g	0.01		10900	E	3100		2840	E	5070	E	6230		17600		776		264		13300		5170	E
1,2,3,4,7,8,9-HPCDF	pg/g	0.01		383		66.3		72.4		142		156		546		19.4		7.41	J	352		83.8	
1,2,3,4,7,8-HXCDD	pg/g	0.1		15.7		1.75	JQ	3.7	J	16		5.39	J	46.9		1.85	J	2.17	J	16.5	J	3.74	J
1,2,3,4,7,8-HxCDF	pg/g	0.1		3180	E	671		766		1410		1420		3460	E	179		54.1	J	3070		775	
1,2,3,6,7,8-HxCDD	pg/g	0.1		26.8		5.67	J	9.21		15.5	Q	18.9	J	440		4.23	J	1.98	JQ	33.9	J	7.64	
1,2,3,6,7,8-HxCDF	pg/g	0.1		42		138		135		203		378		539		41.2		13.5	J	544		195	
1,2,3,7,8,9-HXCDD	pg/g	0.1		11.4		4.31	J	3.81	J	15.4		12.8	J	91.3		3.92	J	4.72	J	16	JQ	2.91	J
1,2,3,7,8,9-HxCDF	pg/g	0.1		< 2.88	U	< 1.83	U	< 0.94	UQ	< 23	U	< 3.18	U	< 41.6	U	< 0.55	U	< 1.29	U	< 4.35	U	< 1.35	U
1,2,3,7,8-PeCDD	pg/g	1		10.4		2.36	J	4.44	J	6.67		6.87	JQ	52.4		2.29	JQ	< 1.19	U	17.6	J	3.69	J
1,2,3,7,8-PeCDF	pg/g	0.03		99		25.3	J	27		43.4		91.4		200		7.83		4.86	JQ	78.2		40.4	
2,3,4,6,7,8-HxCDF	pg/g	0.1		203		44.6		45.1		76.2		107		256		13.8		7.81	J	160		50	
2,3,4,7,8-PECDF	pg/g	0.3		331		68.2		65.1		126		173		414		21.9		11.8	J	307		80.6	
2,3,7,8-TCDD	pg/g	1		8.55		2.37	J	3.01		3.84		9.27	J	26.5		2.02		< 1.04	U	6.56	JQ	4.09	
2,3,7,8-TCDF	pg/g	0.1		47		< 4.98	U	6.81		11.5		26.5		166		5.83		< 10.5	U	30.1		12	
OCDD	pg/g	0.0003		1970		306		314		2170		3240		162000	E	248		744		2560		641	
OCDF	pg/g	0.0003		14600	E	3390		3200		6720	E	7030		43900		1080		263		18300		4460	E
Total HPCDD	pg/g	-		472		66.8		114		478		354		30400		80		51.1	J	551		164	
Total HPCDF	pg/g	-		12900		3620	Q	3240		5730		7320		48100		972	Q	305	Q	15300		5790	
Total HXCDD	pg/g	-		283		48.3	Q	93.3		207	Q	162	Q	2180		46.3		45.2	JQ	298	Q	81.4	Q
Total HxCDF	pg/g	-		6270	Q	1690	Q	1640	Q	2860		3910	Q	11000	QE	454	Q	131	Q	6750	Q	2090	
Total PECDD	pg/g	-		100	Q	32.9	JQ	61.6	Q	76.3	Q	66.6	Q	853	Q	42.8	Q	20.2	JQ	171	Q	44.6	Q
Total PECDF	pg/g	-		2000		668		620	Q	1200	Q	2000	Q	3870		222		108	JQ	2570		691	
Total TCDD	pg/g	-		170		20.3	Q	58.3		66.3	Q	125	Q	751		53.7	Q	38.6	Q	125	Q	48.7	Q
Total TCDF	pg/g	-		766		247	Q	261		503		839		3450	Q	125		143	Q	913	Q	300	Q
2,3,7,8-TCDD - ND = 0	pg/g	-	18	5.94E+02		1.46E+02		1.55E+02		2.82E+02		3.36E+02		1.15E+03		4.49E+01		1.53E+01		6.51E+02		1.93E+02	

Notes:
E - result exceeded calibration range
Q - isomer is qualified as positively identified, but at an estimated quantity because the quantitation is based on the theoretical ratio
U - not detected at reported concentration
J - estimated result

TABLE 7
SURFACE SOILS - PCDD/PCDF
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	TEFs	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	VC-2 0 - 6 in Fill 10/17/2013		VC-2 DUP 0 - 6 in Fill 10/17/2013		VC-3 0 - 6 in Fill 10/22/2013		VC-4 0 - 6 in Fill 10/29/2013		VC-5 0 - 6 in Fill 10/28/2013	
	Units												
1,2,3,4,6,7,8-HpCDD	pg/g	0.01		192		238		63.8		< 1130	U	26.6	
1,2,3,4,6,7,8-HpCDF	pg/g	0.01		873		682		3290	E	8410	J	132	
1,2,3,4,7,8,9-HPCDF	pg/g	0.01		20.2	J	16.7	J	99.3		< 1550	U	3.65	J
1,2,3,4,7,8-HXCDD	pg/g	0.1		1.59	J	1.88	JQ	2.08	JQ	< 1620	U	0.44	J
1,2,3,4,7,8-HxCDF	pg/g	0.1		183		144		900		2410	J	43.3	
1,2,3,6,7,8-HxCDD	pg/g	0.1		8.98	J	10	J	9		< 1600	U	2.05	J
1,2,3,6,7,8-HxCDF	pg/g	0.1		42.6	J	34	J	149		< 600	U	7.53	
1,2,3,7,8,9-HXCDD	pg/g	0.1		7.56	J	6.91	JQ	4.24	J	< 1430	U	1.01	JQ
1,2,3,7,8,9-HxCDF	pg/g	0.1		< 1.2	U	< 0.8	U	< 1	U	< 640	U	< 0.12	U
1,2,3,7,8-PeCDD	pg/g	1		< 0.82	U	1.83	J	2.22	J	< 1910	U	0.5	J
1,2,3,7,8-PeCDF	pg/g	0.03		8.14	J	12.8	J	18.1		< 1220	U	1.15	J
2,3,4,6,7,8-HxCDF	pg/g	0.1		11.5	J	13.3	J	46.8		< 620	U	2.01	J
2,3,4,7,8-PECDF	pg/g	0.3		20.7	J	22.5	J	81.8		< 1210	U	3.88	J
2,3,7,8-TCDD	pg/g	1		< 1.8	U	< 1.83	U	1.29	J	< 1090	U	0.6	J
2,3,7,8-TCDF	pg/g	0.1		< 4.89	U	4.19	J	5.79		< 630	U	< 1.02	U
OCDD	pg/g	0.0003		902		1160		582		9960	J	1010	
OCDF	pg/g	0.0003		742		680		5030		11500	J	198	
Total HPCDD	pg/g	-		432		548		121		< 1130	U	50.1	
Total HPCDF	pg/g	-		994		795		3870		8410	J	168	
Total HXCDD	pg/g	-		93.3	Q	107	Q	68.8	Q	< 1620	U	12.6	Q
Total HxCDF	pg/g	-		476	Q	400	Q	1870	Q	2410	J	111	Q
Total PECDD	pg/g	-		37	JQ	26.2	JQ	31	Q	< 1910	U	5.11	JQ
Total PECDF	pg/g	-		205	Q	224	Q	648		< 1220	U	63.9	
Total TCDD	pg/g	-		64	Q	42.8	Q	22.8	Q	< 186000	U	7.41	Q
Total TCDF	pg/g	-		86.1		133	Q	150		< 8130	U	18.6	Q
2,3,7,8-TCDD - ND = 0	pg/g	-	18	4.33E+01		4.03E+01		1.76E+02		3.32E+02		9.92E+00	

Notes:

E - result exceeded calibration range
Q - isomer is qualified as positively identified, but at an estimated quantity because the quantitation is based on the theoretical ratio
U - not detected at reported concentration
J - estimated result

TABLE 8
FILL/MEADOW MAT/SAND UNIT - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-14 18.25 - 18.75 ft		D-15 16 - 16.5 ft		D-16 9 - 9.5 ft		D-16 15.75 - 16.25 ft		D-17 15.5 - 16 ft		D-18 16.5 - 17 ft		D-19 17 - 17.5 ft		D-20 18 - 18.5 ft		D-21 17.6 - 18.1 ft		D-22 16.3 - 16.8 ft	
				Sand		Sand		Mat		Sand		Sand		Sand		Sand		Sand		Sand		Sand	
				10/15/2013		10/21/2013		10/15/2013		10/15/2013		10/16/2013		10/21/2013		10/17/2013		10/28/2013		10/18/2013		10/17/2013	
Units																							
1,1,1-Trichloroethane	mg/kg	3800	0.07	< 0.063	U	< 27	U	< 63	U	< 0.062	U	< 0.1	U	< 18	U	< 20	U	< 5	U	< 67	U	< 89	U
1,1,2,2-Tetrachloroethane	mg/kg	2.8	0.000026	< 0.057	U	< 24	U	< 57	U	< 0.056	U	< 0.091	U	< 17	U	< 18	U	< 4.6	U	< 60	U	< 80	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	18000	13	< 0.02	U	< 8.6	U	< 20	U	< 0.02	U	< 0.032	U	< 5.9	U	< 6.3	U	< 1.6	U	< 21	U	< 28	U
1,1,2-Trichloroethane	mg/kg	0.68	0.0016	< 0.071	U	< 30	U	< 71	U	< 0.07	U	< 0.11	U	< 21	U	< 22	U	< 5.7	U	< 75	U	< 100	U
1,1-Dichloroethane	mg/kg	17	0.00068	< 0.062	U	< 26	U	< 62	U	< 0.061	U	< 0.099	U	< 18	U	< 19	U	< 5	U	< 66	U	< 87	U
1,1-Dichloroethene	mg/kg	110	0.0025	< 0.065	U	< 28	U	< 65	U	< 0.064	U	< 0.1	U	< 19	U	< 20	U	< 5.2	U	< 69	U	< 92	U
1,2,3-Trichlorobenzene	mg/kg	49	0.0015	< 0.039	U	< 16	U	< 38	U	< 0.038	U	< 0.061	U	< 11	U	< 12	U	18	J	< 41	U	< 54	U
1,2,4-Trichlorobenzene	mg/kg	27	0.2	< 0.023	U	< 9.8	U	< 23	U	< 0.023	U	0.86		< 6.8	U	< 7.2	U	25		< 24	U	< 33	U
1,2-Dibromo-3-chloropropane	mg/kg	0.069	0.000086	< 0.022	U	< 9.1	U	< 21	U	< 0.021	U	< 0.034	U	< 6.3	U	< 6.8	U	< 1.7	U	< 23	U	< 30	U
1,2-Dibromoethane	mg/kg	0.17	0.000014	< 0.037	U	< 16	U	< 37	U	< 0.037	U	< 0.06	U	< 11	U	< 12	U	< 3	U	< 40	U	< 53	U
1,2-Dichlorobenzene	mg/kg	980	0.58	2.8		2600		3300		2.3		18		920		2400		450		9400		6400	
1,2-Dichloroethane	mg/kg	2.2	0.0014	< 0.059	U	< 25	U	< 58	U	< 0.058	U	< 0.093	U	< 17	U	< 18	U	< 4.7	U	< 62	U	< 83	U
1,2-Dichloropropane	mg/kg	4.7	0.0017	< 0.078	U	< 33	U	< 78	U	< 0.077	U	< 0.12	U	< 23	U	< 24	U	< 6.2	U	< 83	U	< 110	U
1,3,5-Trichlorobenzene	mg/kg			< 0.028	U	< 12	U	< 28	U	< 0.028	U	< 0.045	U	< 8.3	U	< 8.9	U	< 2.3	U	< 30	U	< 40	U
1,3-Dichlorobenzene	mg/kg			1.9		2500		3300		2		15		900		2300		340		8500		5700	
1,4-Dichlorobenzene	mg/kg	12	0.072	3.3		3300		5200		3.7		17		1200		3000		500		11000		17000	
1,4-Dioxane	mg/kg	17	0.00014	< 6	U	< 2500	U	< 6000	U	< 5.9	U	< 9.5	U	< 1800	U	< 1900	U	< 480	U	< 6300	U	< 8500	U
2-Butanone	mg/kg	20000	0.1	< 0.066	U	< 28	U	< 66	U	< 0.065	U	< 0.11	U	< 19	U	< 21	U	< 5.3	U	< 70	U	< 94	U
2-Hexanone	mg/kg	140	0.00079	< 0.035	U	< 15	U	< 35	U	< 0.034	U	< 0.055	U	< 10	U	< 11	U	< 2.8	U	< 37	U	< 49	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	5300	0.023	< 0.036	U	< 15	U	< 36	U	< 0.035	U	< 0.058	U	< 11	U	< 11	U	< 2.9	U	< 38	U	< 51	U
Acetone	mg/kg	63000	0.24	< 0.31	U	< 130	U	< 300	U	< 0.3	U	< 0.49	U	< 90	U	< 96	U	< 25	U	< 320	U	< 430	U
Benzene	mg/kg	5.4	0.0026	< 0.061	U	< 26	U	110	J	< 0.059	U	< 0.096	U	< 18	U	< 19	U	< 4.8	U	< 64	U	< 85	U
Bromochloromethane	mg/kg	68	0.0021	< 0.062	U	< 26	U	< 61	U	< 0.06	U	< 0.098	U	< 18	U	< 19	U	< 4.9	U	< 65	U	< 87	U
Bromodichloromethane	mg/kg	1.4	0.022	< 0.057	U	< 24	U	< 57	U	< 0.056	U	< 0.091	U	< 17	U	< 18	U	< 4.6	U	< 60	U	< 80	U
Bromoform	mg/kg	220	0.021	< 0.065	U	< 28	U	< 65	U	< 0.064	U	< 0.1	U	< 19	U	< 21	U	< 5.2	U	< 69	U	< 92	U
Bromomethane	mg/kg	3.2	0.00018	< 0.097	U	< 41	U	< 96	U	< 0.095	U	< 0.15	U	< 28	U	< 30	U	< 7.7	U	< 100	U	< 140	U
Carbon Disulfide	mg/kg	370	0.021	< 0.066	U	< 28	U	< 65	U	< 0.065	U	< 0.1	U	< 19	U	< 21	U	< 5.3	U	< 70	U	< 93	U
Carbon Tetrachloride	mg/kg	3	0.0019	< 0.066	U	< 28	U	< 66	U	< 0.065	U	< 0.11	U	< 19	U	< 21	U	< 5.3	U	< 70	U	< 93	U
Chlorobenzene	mg/kg	140	0.068	< 0.032	U	44	J	170	J	0.11	J	0.51		12	J	27	J	4.9	J	< 34	U	69	J
Chloroethane	mg/kg	6100	0.59	< 0.046	U	< 19	U	< 45	U	< 0.045	U	< 0.073	U	< 13	U	< 14	U	< 3.7	U	< 48	U	< 64	U
Chloroform	mg/kg	1.5	0.022	< 0.062	U	< 26	U	< 61	U	< 0.061	U	< 0.098	U	< 18	U	< 19	U	< 4.9	U	< 65	U	< 87	U
Chloromethane	mg/kg	50	0.0049	< 0.085	U	< 36	U	< 85	U	< 0.084	U	< 0.14	U	< 25	U	< 27	U	< 6.8	U	< 90	U	< 120	U
cis-1,2-Dichloroethene	mg/kg	200	0.021	< 0.041	U	< 17	U	< 40	U	< 0.04	U	< 0.065	U	< 12	U	< 13	U	< 3.3	U	< 43	U	< 57	U
cis-1,3-Dichloropropene	mg/kg	8.3*	0.00015*	< 0.044	U	< 19	U	< 44	U	< 0.044	U	< 0.071	U	< 13	U	< 14	U	< 3.6	U	< 47	U	< 63	U
Cyclohexane	mg/kg	2900	1.3	< 0.037	U	< 16	U	< 36	U	< 0.036	U	< 0.058	U	< 11	U	< 11	U	< 2.9	U	< 39	U	< 51	U
Dibromochloromethane	mg/kg	3.3	0.021	< 0.04	U	< 17	U	< 39	U	< 0.039	U	< 0.063	U	< 12	U	< 12	U	< 3.2	U	< 42	U	< 56	U
Dichlorodifluoromethane	mg/kg	40	0.03	< 0.039	U	< 16	U	< 39	U	< 0.038	U	< 0.062	U	< 11	U	< 12	U	< 3.1	U	< 41	U	< 55	U
Ethylbenzene	mg/kg	27	0.78	< 0.038	U	< 16	U	450		< 0.037	U	< 0.06	U	< 11	U	< 12	U	< 3	U	< 40	U	< 53	U
Isopropylbenzene	mg/kg	1100	0.064	< 0.033	U	< 14	U	< 32	U	< 0.032	U	< 0.052	U	< 9.5	U	< 10	U	< 2.6					

TABLE 8
FILL/MEADOW MAT/SAND UNIT - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional	EPA Regional	D-23		D-23		D-24		D-25		D-26		D-26 DUP		D-27		D-27		VC-1		VC-2	
	sample depth	Screening Levels	Screening Levels	16.6 - 17.1 ft		22.5 - 23 ft		16.5 - 17 ft		18 - 18.5 ft		17.25 - 17.75 ft		17.25 - 17.75 ft		10 - 10.5 ft		20 - 20.25 ft		14 - 14.5 ft		16.5 - 17 ft	
	stratum	Industrial Soil	Soil to Groundwater ⁽¹⁾	Sand		Sand		Sand		Sand		Sand		Sand		Fill		Sand		Sand		Sand	
sample_date		TR=1E-06, THQ=0.1	TR=1E-06, THQ=0.1	10/30/2013		10/30/2013		10/30/2013		10/30/2013		10/31/2013		10/31/2013		10/31/2013		10/31/2013		10/22/2013		10/18/2013	
Units																							
1,1,1-Trichloroethane	mg/kg	3800	0.07	< 2.2	U	< 0.0005	U	< 85	U	< 100	U	< 32	U	< 36	U	< 0.22	U	< 0.00043	U	< 9.8	U	< 0.21	U
1,1,2,2-Tetrachloroethane	mg/kg	2.8	0.000026	< 1.9	U	< 0.00075	U	< 77	U	< 94	U	< 29	U	< 32	U	< 0.2	U	< 0.00064	U	< 8.9	U	< 0.19	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	18000	13	< 0.69	U	< 0.0011	U	< 27	U	< 33	U	< 10	U	< 11	U	< 0.071	U	< 0.00095	U	< 3.2	U	< 0.066	U
1,1,2-Trichloroethane	mg/kg	0.68	0.0016	< 2.4	U	< 0.00086	U	< 96	U	< 120	U	< 36	U	< 40	U	< 0.25	U	< 0.00074	U	< 11	U	< 0.23	U
1,1-Dichloroethane	mg/kg	17	0.00068	< 2.1	U	< 0.0006	U	< 84	U	< 100	U	< 32	U	< 35	U	< 0.22	U	< 0.00051	U	< 9.7	U	< 0.2	U
1,1-Dichloroethene	mg/kg	110	0.0025	< 2.2	U	< 0.00088	U	< 88	U	< 110	U	< 33	U	< 37	U	< 0.23	U	< 0.00076	U	< 10	U	< 0.21	U
1,2,3-Trichlorobenzene	mg/kg	49	0.0015	< 1.3	U	< 0.00088	U	< 52	U	< 64	U	< 20	U	< 22	U	< 0.14	U	< 0.00075	U	< 6	U	0.57	J
1,2,4-Trichlorobenzene	mg/kg	27	0.2	< 0.79	U	< 0.00092	U	< 31	U	< 38	U	< 12	U	< 13	U	< 0.081	U	< 0.00079	U	< 3.6	U	0.86	J
1,2-Dibromo-3-chloropropane	mg/kg	0.069	0.000086	< 0.74	U	< 0.00078	U	< 29	U	< 36	U	< 11	U	< 12	U	< 0.076	U	< 0.00067	U	< 3.4	U	< 0.071	U
1,2-Dibromoethane	mg/kg	0.17	0.000014	< 1.3	U	< 0.0009	U	< 50	U	< 62	U	< 19	U	< 21	U	< 0.13	U	< 0.00077	U	< 5.8	U	< 0.12	U
1,2-Dichlorobenzene	mg/kg	980	0.58	160		< 0.00083	U	4900		11000		590	J	3200	J	< 0.15	U	0.00098	J	120		14	
1,2-Dichloroethane	mg/kg	2.2	0.0014	< 2	U	< 0.00064	U	< 79	U	< 97	U	< 30	U	< 33	U	< 0.21	U	< 0.00055	U	< 9.2	U	< 0.19	U
1,2-Dichloropropane	mg/kg	4.7	0.0017	< 2.7	U	< 0.00056	U	< 110	U	< 130	U	< 40	U	< 44	U	< 0.28	U	< 0.00049	U	< 12	U	< 0.26	U
1,3,5-Trichlorobenzene	mg/kg			< 0.97	U	< 0.001	U	< 38	U	< 47	U	< 14	U	< 16	U	< 0.1	U	< 0.00086	U	< 4.4	U	< 0.093	U
1,3-Dichlorobenzene	mg/kg			160		< 0.00068	U	5100		11000		470	J	2900	J	< 0.11	U	< 0.00059	U	89		12	
1,4-Dichlorobenzene	mg/kg	12	0.072	210		< 0.00066	U	6400		14000		750	J	3700	J	< 0.11	U	0.00063	J	130		15	
1,4-Dioxane	mg/kg	17	0.00014	< 200	U	< 0.29	U	< 8100	U	< 9900	U	< 3100	U	< 3400	U	< 21	U	< 0.25	U	< 940	U	< 20	U
2-Butanone	mg/kg	20000	0.1	< 2.3	U	< 0.00091	U	< 89	U	< 110	U	< 34	U	< 38	U	< 0.23	U	< 0.00079	U	< 10	U	< 0.22	U
2-Hexanone	mg/kg	140	0.00079	< 1.2	U	< 0.00072	U	< 47	U	< 58	U	< 18	U	< 20	U	< 0.12	U	< 0.00062	U	< 5.4	U	< 0.11	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	5300	0.023	< 1.2	U	< 0.00068	U	< 49	U	< 60	U	< 18	U	< 20	U	< 0.13	U	< 0.00058	U	< 5.6	U	< 0.12	U
Acetone	mg/kg	63000	0.24	< 10	U	< 0.0052	U	< 410	U	< 510	U	< 160	U	< 170	U	< 1.1	U	< 0.0045	U	< 48	U	< 1	U
Benzene	mg/kg	5.4	0.0026	< 2.1	U	< 0.0007	U	< 82	U	< 100	U	< 31	U	< 34	U	2.4		0.0011	J	< 9.5	U	< 0.2	U
Bromochloromethane	mg/kg	68	0.0021	< 2.1	U	< 0.00071	U	< 83	U	< 100	U	< 31	U	< 35	U	< 0.22	U	< 0.00061	U	< 9.6	U	< 0.2	U
Bromodichloromethane	mg/kg	1.4	0.022	< 1.9	U	< 0.00058	U	< 77	U	< 94	U	< 29	U	< 32	U	< 0.2	U	< 0.0005	U	< 8.9	U	< 0.19	U
Bromoform	mg/kg	220	0.021	< 2.2	U	< 0.00046	U	< 88	U	< 110	U	< 33	U	< 37	U	< 0.23	U	< 0.0004	U	< 10	U	< 0.21	U
Bromomethane	mg/kg	3.2	0.00018	< 3.3	U	< 0.00077	U	< 130	U	< 160	U	< 49	U	< 55	U	< 0.34	U	< 0.00066	U	< 15	U	< 0.32	U
Carbon Disulfide	mg/kg	370	0.021	< 2.2	U	< 0.00053	U	< 89	U	< 110	U	< 33	U	< 37	U	1.2		< 0.00046	U	< 10	U	< 0.22	U
Carbon Tetrachloride	mg/kg	3	0.0019	< 2.3	U	< 0.00046	U	< 89	U	< 110	U	< 34	U	< 38	U	< 0.23	U	< 0.0004	U	< 10	U	< 0.22	U
Chlorobenzene	mg/kg	140	0.068	1.8	J	< 0.00079	U	52	J	130	J	< 16	U	41	J	< 0.11	U	< 0.00068	U	< 5	U	0.57	J
Chloroethane	mg/kg	6100	0.59	< 1.6	U	< 0.0016	U	< 62	U	< 76	U	< 23	U	< 26	U	< 0.16	U	< 0.0014	U	< 7.1	U	< 0.15	U
Chloroform	mg/kg	1.5	0.022	< 2.1	U	< 0.00061	U	< 83	U	< 100	U	< 31	U	< 35	U	< 0.22	U	< 0.00052	U	< 9.6	U	< 0.2	U
Chloromethane	mg/kg	50	0.0049	< 2.9	U	< 0.00088	U	< 110	U	< 140	U	< 43	U	< 48	U	< 0.3	U	< 0.00076	U	< 13	U	< 0.28	U
cis-1,2-Dichloroethene	mg/kg	200	0.021	< 1.4	U	< 0.00073	U	< 55	U	< 67	U	< 21	U	< 23	U	< 0.14	U	< 0.00063	U	< 6.4	U	< 0.13	U
cis-1,3-Dichloropropene	mg/kg	8.3*	0.00015*	< 1.5	U	< 0.0007	U	< 60	U	< 74	U	< 23	U	< 25	U	< 0.16	U	< 0.00061	U	< 6.9	U	< 0.15	U
Cyclohexane	mg/kg	2900	1.3	< 1.2	U	< 0.00039	U	< 49	U	< 60	U	< 19	U	< 21	U	< 0.13	U	< 0.00033	U	< 5.7	U	< 0.12	U
Dibromochloromethane	mg/kg	3.3	0.021	< 1.4	U	< 0.00074	U	< 53	U	< 66	U	< 20	U	< 22	U	< 0.14	U	< 0.00063	U	< 6.2	U	< 0.13	U
Dichlorodifluoromethane	mg/kg	40	0.03	< 1.3	U	< 0.00069	U	< 52	U	< 64	U	< 20	U	< 22	U	< 0.14	U	< 0.00059	U	< 6.1	U	< 0.13	U
Ethylbenzene	mg/kg	27	0.78	< 1.3	U	< 0.00067	U	< 51	U	< 63	U	< 19	U	< 21	U	2.3		< 0.00057	U				

TABLE 8
FILL/MEADOW MAT/SAND UNIT - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	VC-3 18.2 - 18.7 ft		VC-4 18.5 - 19 ft		VC-4 DUP 18.5 - 19 ft		VC-5 16.5 - 17 ft	
				Sand		Sand		Sand		Sand	
				10/22/2013		10/29/2013		10/29/2013		10/28/2013	
chemical_name	Units										
1,1,1-Trichloroethane	mg/kg	3800	0.07	< 98	U	< 110	U	< 120	U	< 53	U
1,1,2,2-Tetrachloroethane	mg/kg	2.8	0.000026	< 89	U	< 100	U	< 110	U	< 48	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	18000	13	< 31	U	< 35	U	< 39	U	< 17	U
1,1,2-Trichloroethane	mg/kg	0.68	0.0016	< 110	U	< 120	U	< 140	U	< 60	U
1,1-Dichloroethane	mg/kg	17	0.00068	< 96	U	< 110	U	< 120	U	< 52	U
1,1-Dichloroethene	mg/kg	110	0.0025	< 100	U	< 110	U	< 130	U	< 55	U
1,2,3-Trichlorobenzene	mg/kg	49	0.0015	1000		4900	J	2100	J	990	
1,2,4-Trichlorobenzene	mg/kg	27	0.2	1600		7900	J	4400	J	2700	
1,2-Dibromo-3-chloropropane	mg/kg	0.069	0.000086	< 33	U	< 38	U	< 42	U	< 18	U
1,2-Dibromoethane	mg/kg	0.17	0.000014	< 58	U	< 65	U	< 73	U	< 32	U
1,2-Dichlorobenzene	mg/kg	980	0.58	11000		11000		9600		3600	
1,2-Dichloroethane	mg/kg	2.2	0.0014	< 91	U	< 100	U	< 110	U	< 50	U
1,2-Dichloropropane	mg/kg	4.7	0.0017	< 120	U	< 140	U	< 150	U	< 66	U
1,3,5-Trichlorobenzene	mg/kg			< 44	U	< 49	U	< 55	U	< 24	U
1,3-Dichlorobenzene	mg/kg			8100		3700		2800		1400	
1,4-Dichlorobenzene	mg/kg	12	0.072	11000		6900		5500		2100	
1,4-Dioxane	mg/kg	17	0.00014	< 9300	U	< 10000	U	< 12000	U	< 5100	U
2-Butanone	mg/kg	20000	0.1	< 100	U	< 120	U	< 130	U	< 56	U
2-Hexanone	mg/kg	140	0.00079	< 54	U	< 61	U	< 68	U	< 29	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	5300	0.023	< 56	U	< 63	U	< 70	U	< 31	U
Acetone	mg/kg	63000	0.24	< 480	U	< 530	U	< 600	U	< 260	U
Benzene	mg/kg	5.4	0.0026	< 94	U	< 110	U	< 120	U	< 51	U
Bromochloromethane	mg/kg	68	0.0021	< 96	U	< 110	U	< 120	U	< 52	U
Bromodichloromethane	mg/kg	1.4	0.022	< 89	U	< 100	U	< 110	U	< 48	U
Bromoform	mg/kg	220	0.021	< 100	U	< 110	U	< 130	U	< 55	U
Bromomethane	mg/kg	3.2	0.00018	< 150	U	< 170	U	< 190	U	< 81	U
Carbon Disulfide	mg/kg	370	0.021	< 100	U	< 110	U	< 130	U	< 56	U
Carbon Tetrachloride	mg/kg	3	0.0019	< 100	U	< 120	U	< 130	U	< 56	U
Chlorobenzene	mg/kg	140	0.068	250	J	280	J	210	J	85	J
Chloroethane	mg/kg	6100	0.59	< 71	U	< 80	U	< 89	U	< 39	U
Chloroform	mg/kg	1.5	0.022	< 96	U	< 110	U	< 120	U	< 52	U
Chloromethane	mg/kg	50	0.0049	< 130	U	< 150	U	< 170	U	< 72	U
cis-1,2-Dichloroethene	mg/kg	200	0.021	< 63	U	< 71	U	< 79	U	< 34	U
cis-1,3-Dichloropropene	mg/kg	8.3*	0.00015*	< 69	U	< 78	U	< 87	U	< 38	U
Cyclohexane	mg/kg	2900	1.3	< 57	U	< 64	U	< 71	U	< 31	U
Dibromochloromethane	mg/kg	3.3	0.021	< 62	U	< 69	U	< 77	U	< 33	U
Dichlorodifluoromethane	mg/kg	40	0.03	< 60	U	< 68	U	< 76	U	< 33	U
Ethylbenzene	mg/kg	27	0.78	< 59	U	< 66	U	< 74	U	< 32	U
Isopropylbenzene	mg/kg	1100	0.064	< 50	U	< 57	U	< 63	U	< 27	U
m,p-Xylenes	mg/kg	255**	0.018	< 120	U	< 140	U	< 150	U	< 66	U
Methyl Acetate	mg/kg	100000	0.32	< 120	U	< 130	U	< 150	U	< 63	U
Methyl tert_butyl ether	mg/kg	220	0.0028	< 98	U	< 110	U	< 120	U	< 53	U
Methylcyclohexane	mg/kg			< 53	U	< 60	U	< 66	U	< 29	U
Methylene Chloride	mg/kg	310	0.0013	< 100	U	< 120	U	< 130	U	63	J
o-Xylene	mg/kg	300	0.019	< 70	U	< 78	U	< 87	U	38	J
Styrene	mg/kg	3600	0.11	< 61	U	< 68	U	< 76	U	< 33	U
Tetrachloroethene	mg/kg	41	0.0023	< 78	U	< 88	U	< 98	U	< 43	U
Toluene	mg/kg	4500	0.69	< 80	U	< 90	U	< 100	U	< 44	U
trans-1,2-Dichloroethene	mg/kg	69	0.029	< 71	U	< 80	U	< 90	U	< 39	U
trans-1,3-Dichloropropene	mg/kg	8.3*	0.00015*	< 55	U	< 62	U	< 69	U	< 30	U
Trichloroethene	mg/kg	2	0.0018	< 76	U	< 86	U	< 95	U	< 41	U
Trichlorofluoromethane	mg/kg	340	0.069	< 110	U	< 120	U	< 130	U	< 58	U
Vinyl Chloride	mg/kg	1.7	0.00069	< 120	U	< 140	U	< 150	U	< 67	U

Notes:

U - not detected at reported concentration

J - estimated result

(1) - criteria comparison for samples D-23, D-24, and D-25

* - value is for total 1,3-dichloropropene

** - value is average of m-xylene and p-xylene

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-14 18.25 - 18.75 ft		D-15 16 - 16.5 ft		D-16 9 9.5 ft		D-16 15.75 - 16.25 ft		D-17 15.5 - 16 ft		D-18 16.5 - 17 ft		D-19 17 - 17.5 ft		D-20 18 - 18.5 ft		D-21 17.6 - 18.1 ft	
				Sand		Sand		Mat		Sand		Sand		Sand		Sand		Sand		Sand	
				10/15/2013		10/21/2013		10/15/2013		10/15/2013		10/16/2013		10/21/2013		10/17/2013		10/28/2013		10/18/2013	
Units																					
1,1'-Biphenyl	mg/kg	21	0.00087	< 0.054	U	< 0.051	U	22		< 0.053	U	< 0.034	U	< 0.049	U	0.36	J	< 0.052	U	< 0.033	U
1,2,4,5-Tetrachlorobenzene	mg/kg	18	0.00058	< 0.054	U	< 0.051	U	30		< 0.053	U	0.059	J	< 0.049	U	0.55		< 0.053	U	0.76	
2,2'-Oxybis(1-Chloropropane)	mg/kg	22	0.00011	< 0.045	U	< 0.042	U	< 2.3	U	< 0.044	U	< 0.0082	U	< 0.04	U	< 0.0083	U	< 0.043	U	< 0.0081	U
2,3,4,6-Tetrachlorophenol	mg/kg	1800	0.11	< 0.053	U	< 0.05	U	< 2.7	U	< 0.052	U	< 0.024	U	< 0.047	U	< 0.025	U	< 0.051	U	< 0.024	U
2,4,5-Trichlorophenol	mg/kg	6200	0.33	< 0.052	U	< 0.049	U	< 2.7	U	< 0.051	U	< 0.04	U	< 0.047	U	< 0.041	U	< 0.051	U	< 0.04	U
2,4,6-Trichlorophenol	mg/kg	62	0.0034	< 0.047	U	< 0.045	U	< 2.5	U	< 0.047	U	< 0.057	U	< 0.043	U	< 0.058	U	< 0.046	U	< 0.056	U
2,4-Dichlorophenol	mg/kg	180	0.0041	< 0.059	U	< 0.056	U	< 3.1	U	< 0.058	U	0.099		0.071	J	0.31		< 0.057	U	0.35	
2,4-Dimethylphenol	mg/kg	1200	0.032	< 0.1	U	< 0.094	U	< 5.2	U	< 0.098	U	< 0.059	U	< 0.09	U	< 0.06	U	0.12	J	< 0.058	U
2,4-Dinitrophenol	mg/kg	120	0.0034	< 0.23	U	< 0.22	U	< 12	U	< 0.23	U	< 0.45	U	< 0.21	U	< 0.46	U	< 0.22	U	< 0.44	U
2,4-Dinitrotoluene	mg/kg	5.5	0.00028	< 0.013	U	< 0.013	U	< 0.7	U	< 0.013	U	< 0.031	U	< 0.012	U	< 0.031	U	< 0.013	U	< 0.03	U
2,6-Dinitrotoluene	mg/kg	1.2	0.000058	< 0.012	U	< 0.012	U	< 0.64	U	< 0.012	U	< 0.039	U	< 0.011	U	< 0.04	U	< 0.012	U	< 0.038	U
2-Chloronaphthalene	mg/kg	8200	0.29	< 0.045	U	< 0.043	U	< 2.4	U	< 0.044	U	< 0.0079	U	< 0.041	U	< 0.008	U	< 0.044	U	< 0.0078	U
2-Chlorophenol	mg/kg	510	0.0057	< 0.053	U	< 0.05	U	< 2.8	U	< 0.052	U	< 0.031	U	< 0.048	U	< 0.031	U	< 0.051	U	0.033	J
2-Methylnaphthalene	mg/kg	220	0.014	< 0.052	U	< 0.049	U	140		< 0.051	U	< 0.0068	U	< 0.047	U	0.01	J	0.1	J	0.025	J
2-Methylphenol	mg/kg	3100	0.058	< 0.069	U	< 0.065	U	< 3.6	U	< 0.068	U	< 0.026	U	< 0.062	U	< 0.027	U	< 0.067	U	< 0.026	U
2-Nitroaniline	mg/kg	600	0.0062	< 0.17	U	< 0.16	U	< 8.8	U	< 0.17	U	< 0.17	U	< 0.15	U	< 0.17	U	< 0.16	U	< 0.17	U
2-Nitrophenol	mg/kg			< 0.045	U	< 0.043	U	< 2.4	U	< 0.044	U	< 0.042	U	< 0.041	U	< 0.042	U	< 0.044	U	< 0.041	U
3,3'-Dichlorobenzidine	mg/kg	3.8	0.00071	< 0.14	U	< 0.13	U	< 7.4	U	< 0.14	U	< 0.04	U	< 0.13	U	< 0.041	U	< 0.14	U	< 0.039	U
3-Nitroaniline	mg/kg			< 0.14	U	< 0.13	U	< 7.5	U	< 0.14	U	< 0.16	U	< 0.13	U	< 0.16	U	< 0.14	U	< 0.15	U
4,6-Dinitro-2-Methylphenol	mg/kg	4.9	0.0002	< 0.11	U	< 0.1	U	< 5.8	U	< 0.11	U	< 0.15	U	< 0.099	U	< 0.15	U	< 0.11	U	< 0.15	U
4-Bromophenyl-phenylether	mg/kg			< 0.04	U	< 0.038	U	< 2.1	U	< 0.039	U	< 0.033	U	< 0.036	U	< 0.034	U	< 0.039	U	< 0.032	U
4-Chloro-3-methylphenol	mg/kg	6200	0.13	< 0.061	U	< 0.058	U	< 3.2	U	< 0.06	U	< 0.035	U	< 0.055	U	< 0.035	U	< 0.059	U	< 0.034	U
4-Chloroaniline	mg/kg	8.6	0.00013	< 0.11	U	< 0.1	U	< 5.6	U	< 0.11	U	< 0.03	U	< 0.097	U	< 0.031	U	< 0.1	U	< 0.03	U
4-Chlorophenyl-phenylether	mg/kg			< 0.047	U	< 0.045	U	< 2.5	U	< 0.047	U	< 0.042	U	< 0.043	U	< 0.043	U	< 0.046	U	< 0.041	U
4-Methylphenol	mg/kg	6200	0.11	< 0.08	U	< 0.075	U	< 4.2	U	< 0.078	U	< 0.037	U	< 0.072	U	< 0.038	U	< 0.077	U	< 0.037	U
4-Nitroaniline	mg/kg	86	0.0014	< 0.13	U	< 0.12	U	< 6.6	U	< 0.12	U	< 0.15	U	< 0.11	U	< 0.16	U	< 0.12	U	< 0.15	U
4-Nitrophenol	mg/kg			< 0.26	U	< 0.25	U	< 14	U	< 0.26	U	< 0.14	U	< 0.23	U	< 0.14	U	< 0.25	U	< 0.14	U
Acenaphthene	mg/kg	3300	0.41	< 0.059	U	< 0.056	U	7.4	J	< 0.058	U	< 0.0073	U	< 0.053	U	0.0088	J	< 0.057	U	< 0.0072	U
Acenaphthylene	mg/kg			< 0.048	U	< 0.045	U	12	J	< 0.047	U	< 0.0087	U	< 0.043	U	< 0.0088	U	< 0.046	U	< 0.0085	U
Acetophenone	mg/kg	10000	0.045	< 0.062	U	< 0.059	U	< 3.2	U	< 0.061	U	< 0.031	U	< 0.056	U	< 0.032	U	< 0.06	U	< 0.031	U
Anthracene	mg/kg	17000	4.2	< 0.049	U	0.16	J	90		< 0.048	U	< 0.0074	U	< 0.044	U	0.011	J	< 0.048	U	0.014	J
Atrazine	mg/kg	7.5	0.0019	< 0.062	U	< 0.059	U	< 3.3	U	< 0.061	U	< 0.037	U	< 0.056	U	< 0.038	U	< 0.06	U	< 0.036	U
Benzaldehyde	mg/kg	10000	0.033	< 0.048	U	< 0.045	U	< 2.5	U	< 0.047	U	< 0.057	U	< 0.043	U	< 0.058	U	< 0.046	U	< 0.056	U
Benzo(a)anthracene	mg/kg	2.1	0.01	< 0.0028	U	0.1		41		< 0.0028	U	< 0.0095	U	< 0.0025	U	0.025	J	< 0.0027	U	< 0.0094	U
Benzo(a)pyrene	mg/kg	0.21	0.24	0.014	J	0.075		25		< 0.0028	U	< 0.0076	U	0.0087	J	< 0.0077	U	< 0.0028	U	< 0.0075	U
Benzo(b)fluoranthene	mg/kg	2.1	0.035	0.012	J	0.079		29		< 0.0025	U	< 0.012	U	< 0.0023	U	< 0.012	U	< 0.0025	U	< 0.012	U
Benzo(g,h,i)perylene	mg/kg			< 0.03	U	0.037	J	13	J	< 0.029	U	< 0.0075									

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

	sys_loc_code	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-14 18.25 - 18.75 ft		D-15 16 - 16.5 ft		D-16 9 - 9.5 ft		D-16 15.75 - 16.25 ft		D-17 15.5 - 16 ft		D-18 16.5 - 17 ft		D-19 17 - 17.5 ft		D-20 18 - 18.5 ft		D-21 17.6 - 18.1 ft	
	sample depth			Sand		Sand		Mat		Sand		Sand		Sand		Sand		Sand		Sand	
	stratum			10/15/2013		10/21/2013		10/15/2013		10/15/2013		10/16/2013		10/21/2013		10/17/2013		10/28/2013		10/18/2013	
chemical_name	sample_date	Units																			
Hexachlorobutadiene	mg/kg	22	0.0005	< 0.0099	U	< 0.0093	U	< 0.52	U	< 0.0097	U	< 0.0085	U	< 0.0089	U	< 0.0086	U	< 0.0095	U	< 0.0084	U
Hexachlorocyclopentadiene	mg/kg	370	0.16	< 0.048	U	< 0.045	U	< 2.5	U	< 0.047	U	< 0.041	U	< 0.043	U	< 0.042	U	< 0.046	U	< 0.04	U
Hexachloroethane	mg/kg	43	0.00031	< 0.0045	U	< 0.0042	U	< 0.24	U	< 0.0044	U	< 0.027	U	< 0.0041	U	< 0.028	U	< 0.0044	U	< 0.027	U
Indeno(1,2,3-cd)pyrene	mg/kg	2.1	0.2	0.017	J	0.044		14		< 0.0074	U	< 0.0078	U	< 0.0068	U	< 0.0079	U	< 0.0073	U	< 0.0077	U
Isophorone	mg/kg	1800	0.022	< 0.049	U	< 0.046	U	< 2.6	U	< 0.048	U	< 0.029	U	< 0.044	U	< 0.029	U	< 0.047	U	< 0.028	U
Naphthalene	mg/kg	18	0.00047	< 0.047	U	0.044	J	110		< 0.046	U	0.016	J	< 0.042	U	0.25		0.11	J	0.15	
Nitrobenzene	mg/kg	24	0.000079	< 0.0057	U	< 0.0054	U	< 0.3	U	< 0.0056	U	< 0.032	U	< 0.0052	U	< 0.032	U	< 0.0056	U	< 0.031	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.25	0.000007	< 0.0067	U	< 0.0064	U	< 0.35	U	< 0.0066	U	< 0.0089	U	< 0.0061	U	< 0.009	U	< 0.0065	U	< 0.0088	U
N-Nitrosodiphenylamine	mg/kg	350	0.057	< 0.04	U	< 0.038	U	< 2.1	U	< 0.039	U	< 0.035	U	< 0.036	U	< 0.036	U	< 0.039	U	< 0.035	U
Pentachlorophenol	mg/kg	2.7	0.01	< 0.12	U	< 0.11	U	< 6.3	U	< 0.12	U	< 0.034	U	< 0.11	U	< 0.034	U	< 0.12	U	< 0.033	U
Phenanthrene	mg/kg			< 0.051	U	0.37	J	250		< 0.051	U	< 0.012	U	< 0.046	U	0.042	J	< 0.05	U	0.046	J
Phenol	mg/kg	18000	0.26	< 0.054	U	< 0.051	U	< 2.8	U	< 0.053	U	< 0.0089	U	< 0.049	U	< 0.0091	U	< 0.053	U	< 0.0088	U
Pyrene	mg/kg	1700	0.95	< 0.034	U	0.24	J	110		< 0.033	U	0.0092	J	< 0.031	U	0.041	J	< 0.033	U	0.035	J

Notes:
U - not detected at reported concentration
J - estimated result
(1) - criteria comparison for samples D-23, D-24, and D-25

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-22 16.3 - 16.8 ft Sand 10/17/2013		D-23 16.6 - 17.1 ft Sand 10/30/2013		D-23 22.5 - 23 ft Sand 10/30/2013		D-24 16.5 - 17 ft Sand 10/30/2013		D-25 18 - 18.5 ft Sand 10/30/2013		D-26 17.25 - 17.75 ft Sand 10/31/2013		D-26 DUP 17.25 - 17.75 ft Sand 10/31/2013		D-27 10 - 10.5 ft Fill 10/31/2013		D-27 20 - 20.25 ft Sand 10/31/2013	
chemical_name	Units																				
1,1'-Biphenyl	mg/kg	21	0.00087	< 0.056	U	< 0.052	U	< 0.058	U	< 0.52	U	< 0.054	U	0.18	J	0.25	J	13	J	< 0.053	U
1,2,4,5-Tetrachlorobenzene	mg/kg	18	0.00058	1.2		< 0.052	U	< 0.059	U	1.1	J	0.086	J	0.13	J	0.17	J	< 3.2	U	< 0.053	U
2,2'-Oxybis(1-Chloropropane)	mg/kg	22	0.00011	< 0.046	U	< 0.043	U	< 0.048	U	< 0.43	U	< 0.044	U	< 0.042	U	< 0.043	U	< 2.6	U	< 0.043	U
2,3,4,6-Tetrachlorophenol	mg/kg	1800	0.11	< 0.054	U	< 0.05	U	< 0.057	U	< 0.5	U	< 0.052	U	< 0.049	U	< 0.05	U	< 3.1	U	< 0.051	U
2,4,5-Trichlorophenol	mg/kg	6200	0.33	< 0.054	U	< 0.05	U	< 0.056	U	< 0.5	U	< 0.052	U	< 0.048	U	< 0.05	U	< 3.1	U	< 0.051	U
2,4,6-Trichlorophenol	mg/kg	62	0.0034	< 0.049	U	< 0.045	U	< 0.051	U	< 0.45	U	< 0.047	U	< 0.044	U	< 0.045	U	< 2.8	U	< 0.046	U
2,4-Dichlorophenol	mg/kg	180	0.0041	1.1		< 0.056	U	< 0.064	U	< 0.56	U	< 0.059	U	< 0.055	U	< 0.056	U	< 3.5	U	< 0.058	U
2,4-Dimethylphenol	mg/kg	1200	0.032	< 0.1	U	< 0.095	U	< 0.11	U	< 0.95	U	< 0.099	U	0.32	J	0.61	J	< 5.9	U	< 0.097	U
2,4-Dinitrophenol	mg/kg	120	0.0034	< 0.24	U	< 0.22	U	< 0.25	U	< 2.2	U	< 0.23	U	< 0.21	U	< 0.22	U	< 14	U	< 0.22	U
2,4-Dinitrotoluene	mg/kg	5.5	0.00028	< 0.014	U	< 0.013	U	< 0.014	U	< 0.13	U	< 0.013	U	< 0.012	U	< 0.013	U	< 0.79	U	< 0.013	U
2,6-Dinitrotoluene	mg/kg	1.2	0.000058	< 0.012	U	< 0.012	U	< 0.013	U	< 0.12	U	< 0.012	U	< 0.011	U	< 0.012	U	< 0.72	U	< 0.012	U
2-Chloronaphthalene	mg/kg	8200	0.29	< 0.046	U	< 0.043	U	< 0.049	U	< 0.43	U	< 0.045	U	< 0.042	U	< 0.043	U	< 2.7	U	< 0.044	U
2-Chlorophenol	mg/kg	510	0.0057	< 0.055	U	< 0.051	U	< 0.057	U	< 0.51	U	< 0.053	U	< 0.049	U	< 0.051	U	< 3.1	U	< 0.052	U
2-Methylnaphthalene	mg/kg	220	0.014	< 0.053	U	< 0.049	U	< 0.056	U	< 0.49	U	< 0.051	U	0.16	J	0.22	J	16	J	< 0.051	U
2-Methylphenol	mg/kg	3100	0.058	< 0.071	U	< 0.066	U	< 0.074	U	< 0.66	U	< 0.068	U	0.14	J	0.38	J	< 4.1	U	< 0.067	U
2-Nitroaniline	mg/kg	600	0.0062	< 0.17	U	< 0.16	U	< 0.18	U	< 1.6	U	< 0.17	U	< 0.16	U	< 0.16	U	< 10	U	< 0.16	U
2-Nitrophenol	mg/kg			< 0.046	U	< 0.043	U	< 0.049	U	< 0.43	U	< 0.045	U	< 0.042	U	< 0.043	U	< 2.7	U	< 0.044	U
3,3'-Dichlorobenzidine	mg/kg	3.8	0.00071	< 0.15	U	< 0.13	U	< 0.15	U	< 1.4	U	< 0.14	U	< 0.13	U	< 0.14	U	< 8.4	U	< 0.14	U
3-Nitroaniline	mg/kg			< 0.15	U	< 0.14	U	< 0.15	U	< 1.4	U	< 0.14	U	< 0.13	U	< 0.14	U	< 8.4	U	< 0.14	U
4,6-Dinitro-2-Methylphenol	mg/kg	4.9	0.0002	< 0.11	U	< 0.1	U	< 0.12	U	< 1	U	< 0.11	U	< 0.1	U	< 0.11	U	< 6.5	U	< 0.11	U
4-Bromophenyl-phenylether	mg/kg			< 0.041	U	< 0.038	U	< 0.043	U	< 0.38	U	< 0.04	U	< 0.037	U	< 0.038	U	< 2.4	U	< 0.039	U
4-Chloro-3-methylphenol	mg/kg	6200	0.13	< 0.063	U	< 0.058	U	< 0.066	U	< 0.58	U	< 0.06	U	< 0.057	U	< 0.058	U	< 3.6	U	< 0.059	U
4-Chloroaniline	mg/kg	8.6	0.00013	< 0.11	U	< 0.1	U	< 0.12	U	< 1	U	< 0.11	U	< 0.099	U	< 0.1	U	< 6.3	U	< 0.1	U
4-Chlorophenyl-phenylether	mg/kg			< 0.049	U	< 0.045	U	< 0.051	U	< 0.45	U	< 0.047	U	< 0.044	U	< 0.045	U	< 2.8	U	< 0.046	U
4-Methylphenol	mg/kg	6200	0.11	< 0.082	U	< 0.076	U	< 0.086	U	< 0.76	U	< 0.079	U	1.1	J	2.5	J	< 4.7	U	0.19	J
4-Nitroaniline	mg/kg	86	0.0014	< 0.13	U	< 0.12	U	< 0.14	U	< 1.2	U	< 0.12	U	< 0.12	U	< 0.12	U	< 7.4	U	< 0.12	U
4-Nitrophenol	mg/kg			< 0.27	U	< 0.25	U	< 0.28	U	< 2.5	U	< 0.26	U	< 0.24	U	< 0.25	U	< 15	U	< 0.25	U
Acenaphthene	mg/kg	3300	0.41	< 0.06	U	< 0.056	U	< 0.064	U	< 0.56	U	< 0.058	U	0.13	J	0.17	J	41		< 0.057	U
Acenaphthylene	mg/kg			< 0.049	U	< 0.045	U	< 0.052	U	< 0.46	U	< 0.047	U	< 0.044	U	0.051	J	12	J	< 0.046	U
Acetophenone	mg/kg	10000	0.045	< 0.064	U	< 0.059	U	< 0.067	U	< 0.59	U	< 0.061	U	< 0.058	U	< 0.059	U	< 3.7	U	< 0.06	U
Anthracene	mg/kg	17000	4.2	0.056	J	< 0.047	U	< 0.053	U	0.47	J	< 0.049	U	0.15	J	0.15	J	130		< 0.048	U
Atrazine	mg/kg	7.5	0.0019	< 0.064	U	< 0.059	U	< 0.067	U	< 0.6	U	< 0.062	U	< 0.058	U	< 0.06	U	< 3.7	U	< 0.061	U
Benzaldehyde	mg/kg	10000	0.033	< 0.049	U	< 0.045	U	< 0.051	U	< 0.45	U	< 0.047	U	< 0.044	U	< 0.045	U	< 2.8	U	< 0.046	U
Benzo(a)anthracene	mg/kg	2.1	0.01	0.17		0.04		< 0.003	U	0.42		< 0.0028	U	0.13		0.11		110		< 0.0027	U
Benzo(a)pyrene	mg/kg	0.21	0.24	0.13		0.026	J	< 0.0031	U	0.17	J	< 0.0028	U	0.096		0.1		97		0.07	
Benzo(b)fluoranthene	mg/kg	2.1	0.035	0.17		0.039		< 0.0028	U	0.29	J	0.021	J	0.11		0.13		120		0.11	
Benzo(g,h,i)perylene	mg/kg			0.11	J	0.03	J	< 0.032	U	< 0.29	U	< 0.03	U	0.045	J	0.059	J	71		0.055	J
Benzo(k)fluoranthene	mg/kg	21	0.35	0.075		0.022	J	< 0.0033	U	0.12	J	< 0.003	U	0.058		0.067		37		< 0.003	U
bis(2-Chloroethoxy) Methane	mg/kg	180	0.0011	< 0.054	U	< 0.05	U	< 0.056	U	< 0.5	U	< 0.052	U	< 0.048	U	< 0.05	U	< 3.1	U	< 0.051	U
Bis-(2-Chloroethyl) Ether	mg/kg	1	0.0000031	< 0.0057	U	< 0.0052	U	< 0.006	U	< 0.053											

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-22 16.3 - 16.8 ft Sand 10/17/2013		D-23 16.6 - 17.1 ft Sand 10/30/2013		D-23 22.5 - 23 ft Sand 10/30/2013		D-24 16.5 - 17 ft Sand 10/30/2013		D-25 18 - 18.5 ft Sand 10/30/2013		D-26 17.25 - 17.75 ft Sand 10/31/2013		D-26 DUP 17.25 - 17.75 ft Sand 10/31/2013		D-27 10 - 10.5 ft Fill 10/31/2013		D-27 20 - 20.25 ft Sand 10/31/2013	
chemical_name	Units																				
Hexachlorobutadiene	mg/kg	22	0.0005	< 0.01	U	< 0.0094	U	< 0.011	U	< 0.094	U	< 0.0098	U	< 0.0092	U	< 0.0094	U	< 0.58	U	< 0.0096	U
Hexachlorocyclopentadiene	mg/kg	370	0.16	< 0.049	U	< 0.045	U	< 0.051	U	< 0.45	U	< 0.047	U	< 0.044	U	< 0.045	U	< 2.8	U	< 0.046	U
Hexachloroethane	mg/kg	43	0.00031	< 0.0046	U	< 0.0043	U	< 0.0049	U	< 0.043	U	< 0.0045	U	< 0.0042	U	< 0.0043	U	< 0.27	U	< 0.0044	U
Indeno(1,2,3-cd)pyrene	mg/kg	2.1	0.2	0.12		0.027	J	< 0.0081	U	0.19	J	< 0.0074	U	0.056		0.053		71		0.059	
Isophorone	mg/kg	1800	0.022	< 0.05	U	< 0.047	U	< 0.053	U	< 0.47	U	< 0.049	U	< 0.045	U	< 0.047	U	< 2.9	U	< 0.048	U
Naphthalene	mg/kg	18	0.00047	0.11	J	0.052	J	< 0.051	U	< 0.45	U	< 0.046	U	0.35	J	0.57		89		0.078	J
Nitrobenzene	mg/kg	24	0.000079	< 0.0059	U	< 0.0055	U	< 0.0062	U	< 0.055	U	< 0.0057	U	< 0.0053	U	< 0.0055	U	< 0.34	U	< 0.0056	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.25	0.000007	< 0.0069	U	< 0.0064	U	< 0.0073	U	< 0.064	U	< 0.0067	U	< 0.0063	U	< 0.0064	U	< 0.4	U	< 0.0066	U
N-Nitrosodiphenylamine	mg/kg	350	0.057	< 0.041	U	< 0.038	U	< 0.043	U	< 0.38	U	< 0.039	U	< 0.037	U	< 0.038	U	< 2.4	U	< 0.039	U
Pentachlorophenol	mg/kg	2.7	0.01	< 0.12	U	< 0.11	U	< 0.13	U	< 1.1	U	< 0.12	U	< 0.11	U	< 0.12	U	< 7.1	U	< 0.12	U
Phenanthrene	mg/kg			0.29	J	< 0.049	U	< 0.056	U	1.5	J	< 0.051	U	0.47		0.45		440		< 0.05	U
Phenol	mg/kg	18000	0.26	< 0.056	U	< 0.052	U	< 0.059	U	< 0.52	U	< 0.054	U	0.88	J	2.6	J	< 3.2	U	0.16	J
Pyrene	mg/kg	1700	0.95	0.25	J	0.054	J	< 0.037	U	0.77	J	0.041	J	0.23	J	0.19	J	270		< 0.033	U

Notes:
U - not detected at reported concentration
J - estimated result
(1) - criteria comparison for samples D-23, D-24, and D-25

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	Units	EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	VC-1 14 - 14.5 ft Sand 10/22/2013		VC-2 16.5 - 17 ft Sand 10/18/2013		VC-3 18.2 - 18.7 ft Sand 10/22/2013		VC-4 18.5 - 19 ft Sand 10/29/2013		VC-4 DUP 18.5 - 19 ft Sand 10/29/2013		VC-5 16.5 - 17 ft Sand 10/28/2013	
1,1'-Biphenyl	mg/kg	21	0.00087	< 0.051	U	< 0.035	U	0.69	J	210	J	180	J	7.8	
1,2,4,5-Tetrachlorobenzene	mg/kg	18	0.00058	< 0.052	U	< 0.03	U	4.7		1800		1200		12	
2,2'-Oxybis(1-Chloropropane)	mg/kg	22	0.00011	< 0.042	U	< 0.0085	U	< 0.42	U	< 44	U	< 44	U	< 0.46	U
2,3,4,6-Tetrachlorophenol	mg/kg	1800	0.11	< 0.05	U	< 0.025	U	< 0.5	U	< 52	U	< 52	U	< 0.54	U
2,4,5-Trichlorophenol	mg/kg	6200	0.33	< 0.049	U	< 0.042	U	< 0.49	U	< 52	U	< 52	U	< 0.53	U
2,4,6-Trichlorophenol	mg/kg	62	0.0034	< 0.045	U	< 0.059	U	< 0.45	U	< 47	U	< 47	U	< 0.48	U
2,4-Dichlorophenol	mg/kg	180	0.0041	< 0.056	U	0.049	J	< 0.56	U	< 59	U	< 58	U	< 0.61	U
2,4-Dimethylphenol	mg/kg	1200	0.032	< 0.095	U	< 0.062	U	< 0.94	U	< 99	U	< 99	U	< 1	U
2,4-Dinitrophenol	mg/kg	120	0.0034	< 0.22	U	< 0.47	U	< 2.2	U	< 230	U	< 230	U	< 2.4	U
2,4-Dinitrotoluene	mg/kg	5.5	0.00028	< 0.013	U	< 0.032	U	< 0.13	U	< 13	U	< 13	U	< 0.14	U
2,6-Dinitrotoluene	mg/kg	1.2	0.000058	< 0.012	U	< 0.041	U	< 0.11	U	< 12	U	< 12	U	< 0.12	U
2-Chloronaphthalene	mg/kg	8200	0.29	< 0.043	U	< 0.0082	U	< 0.43	U	< 45	U	< 45	U	< 0.46	U
2-Chlorophenol	mg/kg	510	0.0057	< 0.05	U	< 0.032	U	< 0.5	U	< 53	U	< 53	U	< 0.54	U
2-Methylnaphthalene	mg/kg	220	0.014	< 0.049	U	< 0.0071	U	2.2	J	1400		1200		24	
2-Methylphenol	mg/kg	3100	0.058	< 0.065	U	< 0.028	U	< 0.65	U	< 68	U	< 68	U	< 0.71	U
2-Nitroaniline	mg/kg	600	0.0062	< 0.16	U	< 0.18	U	< 1.6	U	< 170	U	< 170	U	< 1.7	U
2-Nitrophenol	mg/kg			< 0.043	U	< 0.043	U	< 0.43	U	< 45	U	< 45	U	< 0.46	U
3,3'-Dichlorobenzidine	mg/kg	3.8	0.00071	< 0.13	U	< 0.042	U	< 1.3	U	< 140	U	< 140	U	< 1.5	U
3-Nitroaniline	mg/kg			< 0.14	U	< 0.16	U	< 1.3	U	< 140	U	< 140	U	< 1.5	U
4,6-Dinitro-2-Methylphenol	mg/kg	4.9	0.0002	< 0.1	U	< 0.16	U	< 1	U	< 110	U	< 110	U	< 1.1	U
4-Bromophenyl-phenylether	mg/kg			< 0.038	U	< 0.034	U	< 0.38	U	< 40	U	< 40	U	< 0.41	U
4-Chloro-3-methylphenol	mg/kg	6200	0.13	< 0.058	U	< 0.036	U	< 0.58	U	< 61	U	< 60	U	< 0.62	U
4-Chloroaniline	mg/kg	8.6	0.00013	< 0.1	U	< 0.032	U	< 1	U	< 110	U	< 110	U	< 1.1	U
4-Chlorophenyl-phenylether	mg/kg			< 0.045	U	< 0.044	U	< 0.45	U	< 47	U	< 47	U	< 0.49	U
4-Methylphenol	mg/kg	6200	0.11	< 0.075	U	< 0.039	U	< 0.75	U	< 79	U	< 79	U	< 0.81	U
4-Nitroaniline	mg/kg	86	0.0014	< 0.12	U	< 0.16	U	< 1.2	U	< 120	U	< 120	U	< 1.3	U
4-Nitrophenol	mg/kg			< 0.25	U	< 0.14	U	< 2.5	U	< 260	U	< 260	U	< 2.7	U
Acenaphthene	mg/kg	3300	0.41	< 0.056	U	< 0.0076	U	1.6	J	240	J	200	J	26	
Acenaphthylene	mg/kg			< 0.045	U	< 0.009	U	< 0.45	U	< 47	U	< 47	U	5.6	
Acetophenone	mg/kg	10000	0.045	< 0.059	U	< 0.032	U	< 0.59	U	< 62	U	< 61	U	< 0.64	U
Anthracene	mg/kg	17000	4.2	< 0.047	U	< 0.0077	U	6.2		170	J	160	J	17	
Atrazine	mg/kg	7.5	0.0019	< 0.059	U	< 0.038	U	< 0.59	U	< 62	U	< 62	U	< 0.64	U
Benzaldehyde	mg/kg	10000	0.033	< 0.045	U	< 0.059	U	< 0.45	U	< 47	U	< 47	U	< 0.49	U
Benzo(a)anthracene	mg/kg	2.1	0.01	< 0.0027	U	< 0.0099	U	1.4		< 2.8	U	< 2.8	U	2.5	
Benzo(a)pyrene	mg/kg	0.21	0.24	< 0.0027	U	< 0.0079	U	0.59		9.4	J	< 2.8	U	1.2	
Benzo(b)fluoranthene	mg/kg	2.1	0.035	< 0.0024	U	< 0.012	U	0.87		< 2.5	U	< 2.5	U	1.2	
Benzo(g,h,i)perylene	mg/kg			< 0.028	U	< 0.0078	U	0.34	J	< 30	U	< 30	U	0.75	J
Benzo(k)fluoranthene	mg/kg	21	0.35	< 0.0029	U	< 0.016	U	0.25	J	< 3	U	< 3	U	0.55	
bis(2-Chloroethoxy) Methane	mg/kg	180	0.0011	< 0.049	U	< 0.026	U	< 0.49	U	< 52	U	< 52	U	< 0.53	U
Bis-(2-Chloroethyl) Ether	mg/kg	1	0.0000031	< 0.0052	U	< 0.011	U	< 0.052	U	< 5.5	U	< 5.4	U	< 0.056	U
bis(2-Ethylhexyl)phthalate	mg/kg	120	1.4	< 0.13	U	< 0.064	U	< 1.3	U	< 130	U	< 130	U	< 1.4	U
Butylbenzylphthalate	mg/kg	910	0.2	< 0.035	U	< 0.054	U	< 0.35	U	< 37	U	< 37	U	< 0.38	U
Caprolactum	mg/kg	30000	0.19	< 0.088	U	< 0.3	U	< 0.88	U	< 92	U	< 92	U	< 0.95	U
Carbazole	mg/kg			< 0.045	U	< 0.0073	U	1.1	J	< 47	U	< 47	U	3.2	J
Chrysene	mg/kg	210	1.1	< 0.045	U	< 0.0094	U	1.2	J	< 47	U	< 47	U	2.4	J
Dibenz(a,h)anthracene	mg/kg	0.21	0.011	< 0.0048	U	< 0.0088	U	< 0.048	U	< 5.1	U	< 5	U	0.17	J
Dibenzofuran	mg/kg	100	0.011	< 0.045	U	< 0.039	U	5		580		510		29	
Diethylphthalate	mg/kg	49000	0.47	< 0.046	U	< 0.043	U	< 0.45	U	< 48	U	< 48	U	< 0.49	U
Dimethylphthalate	mg/kg			< 0.045	U	< 0.043	U	< 0.45	U	< 48	U	< 47	U	< 0.49	U
Di-n-Butylphthalate	mg/kg	6200	0.17	< 0.047	U	< 0.049	U	< 0.47	U	< 49	U	< 49	U	< 0.51	U
Di-n-Octyl phthalate	mg/kg	620	4.4	< 0.024	U	< 0.042	U	< 0.24	U	< 26	U	< 25	U	< 0.26	U
Fluoranthene	mg/kg	2200	7	< 0.051	U	< 0.0084	U	5.1		64	J	57	J	12	
Fluorene	mg/kg	2200	0.4	< 0.049	U	< 0.01	U	3.3	J	240	J	220	J	25	
Hexachlorobenzene	mg/kg	1.1	0.013	< 0.0052	U	< 0.0084	U	61		1300		1200		53	

TABLE 9
FILL/MEADOW MAT/SAND UNIT - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	VC-1 14 - 14.5 ft Sand 10/22/2013		VC-2 16.5 - 17 ft Sand 10/18/2013		VC-3 18.2 - 18.7 ft Sand 10/22/2013		VC-4 18.5 - 19 ft Sand 10/29/2013		VC-4 DUP 18.5 - 19 ft Sand 10/29/2013		VC-5 16.5 - 17 ft Sand 10/28/2013	
chemical_name	Units														
Hexachlorobutadiene	mg/kg	22	0.0005	< 0.0094	U	< 0.0088	U	< 0.093	U	< 9.8	U	< 9.7	U	< 0.1	U
Hexachlorocyclopentadiene	mg/kg	370	0.16	< 0.045	U	< 0.042	U	< 0.45	U	< 47	U	< 47	U	< 0.49	U
Hexachloroethane	mg/kg	43	0.00031	< 0.0043	U	< 0.028	U	< 0.042	U	< 4.5	U	< 4.4	U	< 0.046	U
Indeno(1,2,3-cd)pyrene	mg/kg	2.1	0.2	< 0.0071	U	< 0.0081	U	0.37	J	< 7.5	U	< 7.4	U	0.76	
Isophorone	mg/kg	1800	0.022	< 0.046	U	< 0.03	U	< 0.46	U	< 49	U	< 48	U	< 0.5	U
Naphthalene	mg/kg	18	0.00047	< 0.044	U	< 0.0068	U	12		8400		6100		30	
Nitrobenzene	mg/kg	24	0.000079	< 0.0054	U	< 0.033	U	< 0.054	U	< 5.7	U	< 5.7	U	< 0.059	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.25	0.000007	< 0.0064	U	< 0.0092	U	< 0.064	U	< 6.7	U	< 6.7	U	< 0.069	U
N-Nitrosodiphenylamine	mg/kg	350	0.057	< 0.038	U	< 0.036	U	< 0.38	U	< 40	U	< 39	U	< 0.41	U
Pentachlorophenol	mg/kg	2.7	0.01	< 0.11	U	< 0.035	U	< 1.1	U	< 120	U	< 120	U	< 1.2	U
Phenanthrene	mg/kg			< 0.049	U	< 0.013	U	16		390	J	360	J	48	
Phenol	mg/kg	18000	0.26	< 0.051	U	< 0.0093	U	< 0.51	U	< 54	U	< 54	U	< 0.56	U
Pyrene	mg/kg	1700	0.95	< 0.032	U	< 0.008	U	2.9	J	37	J	< 33	U	5.9	

Notes:

U - not detected at reported concentration

J - estimated result

(1) - criteria comparison for samples D-23, D-24, and D-25

TABLE 10
FILL/MEADOW MAT/SAND UNIT - PCBS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-15 16 - 16.5 ft Sand 10/21/2013		D-16 9 - 9.5 ft Mat 10/15/2013		D-18 16.5 - 17 ft Sand 10/21/2013		D-19 17 - 17.5 ft Sand 10/17/2013		D-21 17.6 - 18.1 ft Sand 10/18/2013		D-22 16.3 - 16.8 ft Sand 10/17/2013		D-24 16.5 - 17 ft Sand 10/30/2013		VC-1 14 - 14.5 ft Sand 10/22/2013	
chemical_name	Units																		
PCB-1016	mg/kg	21	0.01	< 0.017	U	< 0.091	U	< 0.017	U	< 0.017	U	< 0.017	U	< 0.019	U	< 0.017	U	< 0.017	U
PCB-1221	mg/kg	0.54	0.000069	< 0.017	U	< 0.091	U	< 0.017	U	< 0.017	U	< 0.017	U	< 0.019	U	< 0.017	U	< 0.017	U
PCB-1232	mg/kg	0.54	0.000069	< 0.017	U	< 0.091	U	< 0.017	U	< 0.017	U	< 0.017	U	< 0.019	U	< 0.017	U	< 0.017	U
PCB-1242	mg/kg	0.74	0.0053	< 0.017	U	< 0.091	U	< 0.017	U	< 0.017	U	< 0.017	U	< 0.019	U	< 0.017	U	< 0.017	U
PCB-1248	mg/kg	0.74	0.0052	< 0.017	U	< 0.091	U	< 0.017	U	< 0.017	U	< 0.017	U	< 0.019	U	< 0.017	U	< 0.017	U
PCB-1254	mg/kg	0.74	0.0082	< 0.022	U	< 0.12	U	< 0.021	U	< 0.022	U	< 0.021	U	< 0.024	U	< 0.022	U	< 0.022	U
PCB-1260	mg/kg	0.74	0.024	< 0.022	U	< 0.12	U	< 0.021	U	< 0.022	U	< 0.021	U	< 0.024	U	< 0.022	U	< 0.022	U
PCB-1262	mg/kg			< 0.022	U	< 0.12	U	< 0.021	U	< 0.022	U	< 0.021	U	< 0.024	U	< 0.022	U	< 0.022	U
PCB-1268	mg/kg			< 0.022	U	< 0.12	U	< 0.021	U	< 0.022	U	< 0.021	U	< 0.024	U	< 0.022	U	< 0.022	U

Notes:
U - not detected at reported concentration
(1) - criteria comparison for samples D-24

TABLE 10
FILL/MEADOW MAT/SAND UNIT - PCBS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	VC-3 18.2 - 18.7 ft Sand 10/22/2013		VC-4 18.5 - 19 ft Sand 10/29/2013		VC-4 DUP 18.5 - 19 ft Sand 10/29/2013		VC-5 16.5 - 17 ft Sand 10/28/2013	
chemical_name	Units										
PCB-1016	mg/kg	21	0.01	< 0.86	U	< 18	U	< 1.8	U	< 1.9	U
PCB-1221	mg/kg	0.54	0.000069	< 0.86	U	< 18	U	< 1.8	U	< 1.9	U
PCB-1232	mg/kg	0.54	0.000069	< 0.86	U	< 18	U	< 1.8	U	< 1.9	U
PCB-1242	mg/kg	0.74	0.0053	< 0.86	U	< 18	U	< 1.8	U	< 1.9	U
PCB-1248	mg/kg	0.74	0.0052	< 0.86	U	< 18	U	< 1.8	U	< 1.9	U
PCB-1254	mg/kg	0.74	0.0082	< 1.1	U	< 23	U	< 2.3	U	< 2.4	U
PCB-1260	mg/kg	0.74	0.024	< 1.1	U	< 23	U	< 2.3	U	< 2.4	U
PCB-1262	mg/kg			< 1.1	U	< 23	U	< 2.3	U	< 2.4	U
PCB-1268	mg/kg			< 1.1	U	< 23	U	< 2.3	U	< 2.4	U

Notes:
U - not detected at reported concentration
(1) - criteria comparison for samples D-24

TABLE 11
FILL/MEADOW MAT/SAND UNIT - PCDD/PCDF
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date			EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	D-15 16 - 16.5 ft Sand 10/21/2013		D-16 9 - 9.5 ft Mat 10/15/2013		D-18 16.5 - 17 ft Sand 10/21/2013		D-19 17 - 17.5 ft Sand 10/17/2013		D-21 17.6 - 18.1 ft Sand 10/18/2013		D-22 16.3-16.8 ft Sand 10/17/2013		D-24 16.5 - 17 ft Sand 10/30/2013		VC-1 14 - 14.5 ft Sand 10/22/2013		VC-3 18.2 - 18.7 ft Sand 10/22/2013	
chemical_name	Units	TEFs																				
1,2,3,4,6,7,8-HpCDD	pg/g	0.01			27.2	J	577		4.53	J	2.35	J	3.6	JQ	26	J	54.7		< 0.18	U	40100	
1,2,3,4,6,7,8-HpCDF	pg/g	0.01			3080		72700	E	433		173		394		1890		6270		18.4		13200000	E
1,2,3,4,7,8,9-HPCDF	pg/g	0.01			82.3		1920		9.05	J	5.78	J	9.57	J	52.4		157		< 0.2	U	492000	E
1,2,3,4,7,8-HxCDD	pg/g	0.1			3.27	J	96.4	J	< 0.58	U	< 0.4	U	1.22	J	1.74	JQ	6.85	J	< 0.083	U	2090	J
1,2,3,4,7,8-HxCDF	pg/g	0.1			795		20400		113		40.9	J	101		500		2010		3.99	J	5720000	E
1,2,3,6,7,8-HxCDD	pg/g	0.1			6.82	JQ	167		1.08	JQ	< 0.29	U	0.99	J	5.4	J	12.7	J	< 0.06	U	16800	
1,2,3,6,7,8-HxCDF	pg/g	0.1			160		3370		23.5	J	8.51	J	19.2	JQ	94.6		310		0.8	J	723000	E
1,2,3,7,8,9-HxCDD	pg/g	0.1			6.38	JQ	54.9	J	< 0.41	U	< 0.28	U	0.98	J	3.42	J	6.16	J	< 0.058	U	4240	J
1,2,3,7,8,9-HxCDF	pg/g	0.1			< 1.49	U	< 20.3	U	< 0.72	U	< 0.58	U	< 0.76	U	< 1.37	U	< 16.6	U	< 0.096	U	169000	
1,2,3,7,8-PeCDD	pg/g	1			3.9	J	97.6	J	< 0.52	U	< 0.52	U	< 0.98	U	2.89	J	10	J	< 0.095	U	NA	
1,2,3,7,8-PeCDF	pg/g	0.03			31.4	J	845		< 0.5	U	4.93	J	4.59	J	16.8	J	55.3		0.3	J	73300	
2,3,4,6,7,8-HxCDF	pg/g	0.1			50.2	J	982		6.42	JQ	2.41	J	5.48	JQ	26.3	J	85.2		< 0.086	U	199000	
2,3,4,7,8-PECDF	pg/g	0.3			60.6		2220		< 0.52	U	4.45	J	12.5	J	49	J	165		0.67	J	449000	E
2,3,7,8-TCDD	pg/g	1			2.82	J	60.5		< 0.4	U	< 9.95	U	0.67	JQ	1.58	JQ	4.82	J	< 0.068	U	NA	
2,3,7,8-TCDF	pg/g	0.1			6.52	JQ	179		< 5.2	U	3.68	J	< 3.73	U	< 4.69	U	21.5		1.02	J	235000	E
OCDD	pg/g	0.0003			210		2190		21.4	J	13.2	J	20.5	J	182		296		2.66	J	109000	
OCDF	pg/g	0.0003			3630		77200	E	528		215		405		2290		8080		31.1		23800000	E
Total HPCDD	pg/g	-			62.2		1370		10.5	J	5.06	JQ	10.1	JQ	54.6		134		< 0.18	U	40100	
Total HPCDF	pg/g	-			3500		82600		485		190	Q	432	Q	2170	Q	7030		19.5		13700000	
Total HxCDD	pg/g	-			74.5	Q	2000	Q	11.6	JQ	< 1.2	U	15.8	JQ	48.9	JQ	164	Q	< 0.083	U	23200	
Total HxCDF	pg/g	-			1460	Q	46500	Q	253	Q	94	Q	229	Q	1100	Q	4100	Q	8.05	Q	6810000	
Total PECDD	pg/g	-			17.8	JQ	1560		6.56	J	< 0.52	U	10.8	JQ	35.7	JQ	164	Q	< 0.095	U	NA	
Total PECDF	pg/g	-			300	Q	18200		89.6	Q	40.2	JQ	213		446	Q	1670	Q	5.5	JQ	522000	
Total TCDD	pg/g	-			23.3	Q	1200	Q	6.22	JQ	< 0.4	U	10.9	Q	36.6	Q	120	Q	< 0.068	U	NA	
Total TCDF	pg/g	-			121	Q	8500	Q	44.8	Q	13.7	Q	55.9	Q	192	Q	812		4.66	Q	235000	
2,3,7,8-TCDD - ND = 0	pg/g	-	18	15	1.62E+02		4.15E+03		1.90E+01		8.91E+00		2.16E+01		1.03E+02		3.79E+02		9.85E-01		9.88E+05	

Notes:

E - result exceeded calibration range

Q - isomer is qualified as positively identified, but at an estimated quantity because the quantitation is based on the theoretical ratio

U - not detected at reported concentration

J - estimated result

NA - some parameters could not be reported due to severe matrix interference and high target

(1) - criteria comparison for sample D-24

TABLE 11
FILL/MEADOW MAT/SAND UNIT - PCDD/PCDF
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date			EPA Regional Screening Levels Industrial Soil TR=1E-06, THQ=0.1	EPA Regional Screening Levels Soil to Groundwater ⁽¹⁾ TR=1E-06, THQ=0.1	VC-4 18.5 - 19 ft Sand 10/29/2013		VC-4 DUP 18.5 - 19 ft Sand 10/29/2013		VC-5 16.5 - 17 ft Sand 10/28/2013	
chemical_name	Units	TEFs								
1,2,3,4,6,7,8-HpCDD	pg/g	0.01			< 1330	U	753000	J	150	
1,2,3,4,6,7,8-HpCDF	pg/g	0.01			11100	J	154000000	JE	24800	E
1,2,3,4,7,8,9-HPCDF	pg/g	0.01			< 1540	U	5470000		1020	E
1,2,3,4,7,8-HXCDD	pg/g	0.1			< 1440	U	70500	J	9.69	J
1,2,3,4,7,8-HxCDF	pg/g	0.1			2760	J	57800000	JE	12400	E
1,2,3,6,7,8-HxCDD	pg/g	0.1			< 1420	U	262000	JQ	55.4	
1,2,3,6,7,8-HxCDF	pg/g	0.1			< 670	U	6890000		1370	E
1,2,3,7,8,9-HXCDD	pg/g	0.1			< 1270	U	99300	J	24.3	
1,2,3,7,8,9-HxCDF	pg/g	0.1			< 720	U	< 127000	U	463	E
1,2,3,7,8-PeCDD	pg/g	1			< 2080	U	77300	J	NA	
1,2,3,7,8-PeCDF	pg/g	0.03			< 1210	U	759000		806	E
2,3,4,6,7,8-HxCDF	pg/g	0.1			< 700	U	1990000		487	E
2,3,4,7,8-PECDF	pg/g	0.3			< 1210	U	4650000		994	E
2,3,7,8-TCDD	pg/g	1			< 1180	U	28400	J	NA	
2,3,7,8-TCDF	pg/g	0.1			< 690	U	3440000		539	E
OCDD	pg/g	0.0003			21900	J	2030000		523	
OCDF	pg/g	0.0003			14200	J	284000000	JE	39800	E
Total HPCDD	pg/g	-			< 1330	U	1670000		150	
Total HPCDF	pg/g	-			11100	J	171000000	J	25900	
Total HXCDD	pg/g	-			< 14400	U	1930000	Q	89.4	
Total HxCDF	pg/g	-			2760	J	100000000	J	14800	
Total PECDD	pg/g	-			< 2080	U	1100000	Q	NA	
Total PECDF	pg/g	-			< 1210	U	36500000		1800	
Total TCDD	pg/g	-			< 1200	U	882000		NA	
Total TCDF	pg/g	-			< 700	U	15300000		539	
2,3,7,8-TCDD - ND = 0	pg/g	-	18	15	3.98E+02		1.02E+08		2.13E+03	

Notes:

- E - result exceeded calibration range
Q - isomer is qualified as positively identified, but at an estimated quantity because the quantitation is based on the theoretical ratio
U - not detected at reported concentration
J - estimated result
NA - some parameters could not be reported due to severe matrix interference and high target
(1) - criteria comparison for sample D-24

TABLE 12
VARVED CLAY - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	D-14 19 - 19.5 ft Varved Clay 10/15/2013	D-15 17 - 17.5 ft Varved Clay 10/21/2013	D-15 22.5 - 23 ft Varved Clay 10/21/2013	D-16 20 - 20.5 ft Varved Clay 10/16/2013	D-17 20 - 20.5 ft Varved Clay 10/16/2013	D-18 17.5 - 18 ft Varved Clay 10/21/2013	D-19 19.5 - 20 ft Varved Clay 10/17/2013	D-20 19 - 19.5 ft Varved Clay 10/28/2013	D-20 24.5 - 25 ft Varved Clay 10/28/2013	D-21 18.75 - 19.25 ft Varved Clay 10/18/2013	D-21 23.5 - 24 ft Varved Clay 10/18/2013
		chemical_name	Units									
1,1,1-Trichloroethane	mg/kg	0.07	< 0.00049	U	< 0.54	U	< 0.00054	U	< 0.00053	U	< 0.00049	U
1,1,2,2-Tetrachloroethane	mg/kg	0.000026	< 0.00072	U	< 0.49	U	< 0.0008	U	< 0.00079	U	< 0.00073	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	13	< 0.0011	U	< 0.17	U	< 0.0012	U	< 0.0012	U	< 0.0011	U
1,1,2-Trichloroethane	mg/kg	0.0016	< 0.00084	U	< 0.61	U	< 0.00093	U	< 0.00091	U	< 0.00089	U
1,1-Dichloroethane	mg/kg	0.00068	< 0.00058	U	< 0.53	U	< 0.00064	U	< 0.00063	U	< 0.00066	U
1,1-Dichloroethene	mg/kg	0.0025	< 0.00085	U	< 0.56	U	< 0.00095	U	< 0.00093	U	< 0.00097	U
1,2,3-Trichlorobenzene	mg/kg	0.0015	< 0.00085	U	< 0.33	U	< 0.00094	U	< 0.00093	U	< 0.00097	U
1,2,4-Trichlorobenzene	mg/kg	0.2	< 0.00089	U	< 0.2	U	< 0.00098	U	< 0.00097	U	< 0.001	U
1,2-Dibromo-3-chloropropane	mg/kg	0.000086	< 0.00075	U	< 0.18	U	< 0.00083	U	< 0.00082	U	< 0.00086	U
1,2-Dibromoethane	mg/kg	0.000014	< 0.00087	U	< 0.32	U	< 0.00096	U	< 0.00095	U	< 0.00099	U
1,2-Dichlorobenzene	mg/kg	0.58	< 0.0008	U	14		< 0.00089	U	< 0.00088	U	< 0.00091	U
1,2-Dichloroethane	mg/kg	0.0014	< 0.00062	U	< 0.5	U	< 0.00068	U	< 0.00067	U	< 0.0007	U
1,2-Dichloropropane	mg/kg	0.0017	< 0.00055	U	< 0.67	U	< 0.00061	U	< 0.0006	U	< 0.00062	U
1,3,5-Trichlorobenzene	mg/kg		< 0.00097	U	< 0.24	U	< 0.0011	U	< 0.0011	U	< 0.0011	U
1,3-Dichlorobenzene	mg/kg		< 0.00066	U	12		< 0.00073	U	< 0.00072	U	< 0.00075	U
1,4-Dichlorobenzene	mg/kg	0.072	< 0.00064	U	17		< 0.00071	U	0.005	J	0.00086	J
1,4-Dioxane	mg/kg	0.00014	< 0.28	U	< 51	U	< 0.31	U	< 0.3	U	< 0.32	U
2-Butanone	mg/kg	0.1	< 0.00089	U	< 0.57	U	< 0.00098	U	< 0.00097	U	< 0.001	U
2-Hexanone	mg/kg	0.00079	< 0.00069	U	< 0.3	U	< 0.00077	U	< 0.00076	U	< 0.00079	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.023	< 0.00066	U	< 0.31	U	< 0.00073	U	< 0.00072	U	< 0.00075	U
Acetone	mg/kg	0.24	< 0.005	U	< 2.6	U	< 0.0056	U	< 0.0055	U	< 0.0057	U
Benzene	mg/kg	0.0026	< 0.00068	U	< 0.52	U	< 0.00075	U	< 0.00074	U	< 0.00077	U
Bromochloromethane	mg/kg	0.0021	< 0.00069	U	< 0.53	U	< 0.00077	U	< 0.00076	U	< 0.00079	U
Bromodichloromethane	mg/kg	0.022	< 0.00056	U	< 0.49	U	< 0.00063	U	< 0.00062	U	< 0.00064	U
Bromoform	mg/kg	0.021	< 0.00044	U	< 0.56	U	< 0.00049	U	< 0.00049	U	< 0.00051	U
Bromomethane	mg/kg	0.00018	< 0.00074	U	< 0.82	U	< 0.00082	U	< 0.00081	U	< 0.00084	U
Carbon Disulfide	mg/kg	0.021	< 0.00051	U	< 0.56	U	< 0.00057	U	< 0.00056	U	< 0.00059	U
Carbon Tetrachloride	mg/kg	0.0019	< 0.00045	U	< 0.57	U	< 0.0005	U	< 0.00049	U	< 0.00051	U
Chlorobenzene	mg/kg	0.068	< 0.00076	U	0.53	J	< 0.00084	U	< 0.00083	U	< 0.00087	U
Chloroethane	mg/kg	0.59	< 0.0016	U	< 0.39	U	< 0.0017	U	< 0.0017	U	< 0.0018	U
Chloroform	mg/kg	0.022	< 0.00059	U	< 0.53	U	< 0.00065	U	0.00065	J	0.00074	U
Chloromethane	mg/kg	0.0049	< 0.00086	U	< 0.73	U	< 0.00095	U	< 0.00094	U	< 0.00097	U
cis-1,2-Dichloroethene	mg/kg	0.021	< 0.00071	U	< 0.35	U	< 0.00078	U	< 0.00077	U	< 0.0008	U
cis-1,3-Dichloropropene	mg/kg	0.00015*	< 0.00068	U	< 0.38	U	< 0.00076	U	< 0.00074	U	< 0.00078	U
Cyclohexane	mg/kg	1.3	< 0.00037	U	< 0.31	U	< 0.00041	U	< 0.00041	U	< 0.00042	U
Dibromochloromethane	mg/kg	0.021	< 0.00071	U	< 0.34	U	< 0.00079	U	< 0.00078	U	< 0.00081	U
Dichlorodifluoromethane	mg/kg	0.03	< 0.00067	U	< 0.33	U	< 0.00074	U	< 0.00073	U	< 0.00076	U
Ethylbenzene	mg/kg	0.78	< 0.00065	U	< 0.32	U	< 0.00072	U	< 0.00071	U	< 0.00073	U
Isopropylbenzene	mg/kg	0.064	< 0.00068	U	< 0.28	U	< 0.00076	U	< 0.00075	U	< 0.00078	U
m,p-Xylenes	mg/kg	0.018	< 0.0015	U	< 0.67	U	< 0.0016	U	< 0.0016	U	< 0.0017	U
Methyl Acetate	mg/kg	0.32	< 0.00091	U	< 0.64	U	< 0.001	U	< 0.00099	U	< 0.001	U
Methyl tert_butyl ether	mg/kg	0.0028	< 0.00075	U	< 0.54	U	< 0.00083	U	< 0.00082	U	< 0.00085	U
Methylcyclohexane	mg/kg		< 0.00073	U	< 0.29	U	< 0.00081	U	< 0.0008	U	< 0.00083	U
Methylene Chloride	mg/kg	0.0013	0.00076	U	< 0.57	U	0.0016	U	0.0009	U	0.00077	U
o-Xylene	mg/kg	0.019	< 0.00078	U	< 0.38	U	< 0.00087	U	< 0.00086	U	< 0.00089	U
Styrene	mg/kg	0.11	< 0.00071	U	< 0.33	U	< 0.00079	U	< 0.00077	U	< 0.00081	U
Tetrachloroethene	mg/kg	0.0023	< 0.00068	U	< 0.43	U	< 0.00076	U	< 0.00075	U	< 0.00078	U
Toluene	mg/kg	0.69	< 0.00073	U	< 0.44	U	< 0.00081	U	< 0.0008	U	< 0.00083	U
trans-1,2-Dichloroethene	mg/kg	0.029	< 0.0006	U	< 0.39	U	< 0.00066	U	< 0.00065	U	< 0.00068	U
trans-1,3-Dichloropropene	mg/kg	0.00015*	< 0.0006	U	< 0.3	U	< 0.00067	U	< 0.00066	U	< 0.00068	U
Trichloroethene	mg/kg	0.0018	< 0.00066	U	< 0.42	U	< 0.00073	U	< 0.00072	U	< 0.00075	U
Trichlorofluoromethane	mg/kg	0.069	< 0.00092	U	< 0.58	U	< 0.001	U	< 0.001	U	< 0.0011	U
Vinyl Chloride	mg/kg	0.00069	< 0.00047	U	< 0.67	U	< 0.00052	U	< 0.00052	U	< 0.00054	U

Notes:
U - not detected at reported concentration
J - estimated result
* - value is for total 1,3-dichloropropene

TABLE 12
VARVED CLAY - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code	EPA Regional	D-22	D-23	D-23	D-24	D-24	D-25	D-25	D-26	D-27	VC-1	VC-1 DUP												
sample depth	Screening Levels	17.5 - 18 ft	17.6 - 18.1 ft	22.5 - 23 ft	17.5 - 18 ft	22.5 - 23 ft	19 - 19.5 ft	24 - 24.5 ft	18.25 - 18.75	20.5 - 21 ft	15 - 15.5 ft	15 - 15.5 ft												
stratum	Soil to Groundwater	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay												
sample_date	TR=1E-06, THQ=0.1	10/17/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/31/2013	10/31/2013	10/22/2013	10/22/2013												
chemical_name	Units																							
1,1,1-Trichloroethane	mg/kg	0.07	< 0.00052	U	< 0.06	U	< 0.0005	U	< 1.1	U	< 0.00054	U	< 0.79	U	< 0.13	U	< 0.00051	U	< 0.00048	U	< 0.48	U	< 0.52	U
1,1,2,2-Tetrachloroethane	mg/kg	0.000026	< 0.00077	U	< 0.054	U	< 0.00075	U	< 0.99	U	< 0.00079	U	< 0.71	U	< 0.12	U	< 0.00075	U	< 0.0007	U	< 0.44	U	< 0.47	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	13	< 0.0011	U	< 0.019	U	< 0.0011	U	< 0.35	U	< 0.0012	U	< 0.25	U	< 0.043	U	< 0.0011	U	< 0.001	U	< 0.16	U	< 0.17	U
1,1,2-Trichloroethane	mg/kg	0.0016	< 0.00089	U	< 0.068	U	< 0.00086	U	< 1.2	U	< 0.00092	U	< 0.89	U	< 0.15	U	< 0.00087	U	< 0.00082	U	< 0.55	U	< 0.58	U
1,1-Dichloroethane	mg/kg	0.00068	< 0.00062	U	< 0.059	U	< 0.0006	U	< 1.1	U	< 0.00063	U	< 0.78	U	< 0.13	U	< 0.0006	U	< 0.00056	U	< 0.48	U	< 0.51	U
1,1-Dichloroethene	mg/kg	0.0025	< 0.00091	U	< 0.062	U	< 0.00088	U	< 1.1	U	< 0.00093	U	< 0.82	U	< 0.14	U	< 0.00088	U	< 0.00083	U	< 0.5	U	< 0.53	U
1,2,3-Trichlorobenzene	mg/kg	0.0015	< 0.00091	U	0.25	J	< 0.00088	U	< 0.67	U	< 0.00093	U	< 0.48	U	< 0.081	U	< 0.00088	U	< 0.00083	U	< 0.3	U	< 0.32	U
1,2,4-Trichlorobenzene	mg/kg	0.2	< 0.00095	U	0.18	J	< 0.00092	U	2.8	J	< 0.00097	U	< 0.29	U	< 0.049	U	< 0.00092	U	< 0.00087	U	< 0.18	U	< 0.19	U
1,2-Dibromo-3-chloropropane	mg/kg	0.000086	< 0.0008	U	< 0.021	U	< 0.00078	U	< 0.37	U	< 0.00082	U	< 0.27	U	< 0.046	U	< 0.00078	U	< 0.00073	U	< 0.17	U	< 0.18	U
1,2-Dibromoethane	mg/kg	0.000014	< 0.00093	U	< 0.036	U	< 0.0009	U	< 0.65	U	< 0.00095	U	< 0.47	U	< 0.079	U	< 0.0009	U	< 0.00085	U	< 0.29	U	< 0.31	U
1,2-Dichlorobenzene	mg/kg	0.58	0.0066		7		< 0.00083	U	110		< 0.00088	U	31		16		< 0.00083	U	< 0.00078	U	7.9		10	
1,2-Dichloroethane	mg/kg	0.0014	< 0.00066	U	< 0.056	U	< 0.00064	U	< 1	U	< 0.00068	U	< 0.74	U	< 0.12	U	< 0.00064	U	< 0.0006	U	< 0.45	U	< 0.48	U
1,2-Dichloropropane	mg/kg	0.0017	< 0.00058	U	< 0.074	U	< 0.00056	U	< 1.4	U	< 0.0006	U	< 0.98	U	< 0.16	U	< 0.00057	U	< 0.00053	U	< 0.6	U	< 0.64	U
1,3,5-Trichlorobenzene	mg/kg		< 0.001	U	< 0.027	U	< 0.001	U	< 0.49	U	< 0.0011	U	< 0.35	U	< 0.06	U	< 0.001	U	< 0.00095	U	< 0.22	U	< 0.23	U
1,3-Dichlorobenzene	mg/kg		0.0045	J	7.4		< 0.00068	U	110		< 0.00072	U	28		13		< 0.00068	U	< 0.00064	U	3.8		5.8	
1,4-Dichlorobenzene	mg/kg	0.072	0.01		8.5		< 0.00066	U	130		< 0.0007	U	44		19		< 0.00066	U	< 0.00062	U	8.4		11	
1,4-Dioxane	mg/kg	0.00014	< 0.3	U	< 5.7	U	< 0.29	U	< 100	U	< 0.3	U	< 75	U	< 13	U	< 0.29	U	< 0.27	U	< 46	U	< 49	U
2-Butanone	mg/kg	0.1	< 0.00095	U	< 0.063	U	< 0.00091	U	< 1.1	U	< 0.00097	U	< 0.83	U	< 0.14	U	< 0.00092	U	< 0.00086	U	< 0.51	U	< 0.54	U
2-Hexanone	mg/kg	0.00079	< 0.00074	U	< 0.033	U	< 0.00072	U	< 0.6	U	< 0.00076	U	< 0.44	U	< 0.074	U	< 0.00072	U	< 0.00068	U	< 0.27	U	< 0.29	U
4-Methyl-2-Pentanone (MIBK)	mg/kg	0.023	< 0.0007	U	< 0.034	U	< 0.00068	U	< 0.63	U	< 0.00072	U	< 0.45	U	< 0.076	U	< 0.00068	U	< 0.00064	U	< 0.28	U	< 0.3	U
Acetone	mg/kg	0.24	< 0.0054	U	< 0.29	U	< 0.0052	U	< 5.3	U	< 0.0055	U	< 3.8	U	< 0.65	U	< 0.0052	U	< 0.0049	U	< 2.3	U	< 2.5	U
Benzene	mg/kg	0.0026	< 0.00072	U	< 0.058	U	< 0.0007	U	< 1	U	< 0.00074	U	< 0.76	U	< 0.13	U	< 0.0007	U	0.0019	J	< 0.46	U	< 0.5	U
Bromochloromethane	mg/kg	0.0021	< 0.00074	U	< 0.059	U	< 0.00071	U	< 1.1	U	< 0.00076	U	< 0.77	U	< 0.13	U	< 0.00072	U	< 0.00068	U	< 0.47	U	< 0.5	U
Bromodichloromethane	mg/kg	0.022	< 0.0006	U	< 0.054	U	< 0.00058	U	< 0.99	U	< 0.00062	U	< 0.71	U	< 0.12	U	< 0.00059	U	< 0.00055	U	< 0.44	U	< 0.47	U
Bromoform	mg/kg	0.021	< 0.00047	U	< 0.062	U	< 0.00046	U	< 1.1	U	< 0.00049	U	< 0.82	U	< 0.14	U	< 0.00046	U	< 0.00043	U	< 0.5	U	< 0.54	U
Bromomethane	mg/kg	0.00018	< 0.00079	U	< 0.092	U	< 0.00077	U	< 1.7	U	< 0.00081	U	< 1.2	U	< 0.2	U	< 0.00077	U	< 0.00072	U	< 0.74	U	< 0.79	U
Carbon Disulfide	mg/kg	0.021	< 0.00055	U	< 0.063	U	< 0.00053	U	< 1.1	U	< 0.00056	U	< 0.82	U	< 0.14	U	< 0.00053	U	< 0.0005	U	< 0.5	U	< 0.54	U
Carbon Tetrachloride	mg/kg	0.0019	< 0.00048	U	< 0.063	U	< 0.00046	U	< 1.1	U	< 0.00049	U	< 0.83	U	< 0.14	U	< 0.00047	U	< 0.00044	U	< 0.51	U	< 0.54	U
Chlorobenzene	mg/kg	0.068	< 0.00081	U	0.092	J	< 0.00079	U	1.4	J	< 0.00083	U	1.4	J	0.54	J	< 0.00079	U	< 0.00074	U	0.9	J	0.92	J
Chloroethane	mg/kg	0.59	< 0.0017	U	< 0.044	U	< 0.0016	U	< 0.79	U	< 0.0017	U	< 0.57	U	< 0.097	U	< 0.0016	U	< 0.0015	U	< 0.35	U	< 0.37	U
Chloroform	mg/kg	0.022	0.00082	J	< 0.059	U	< 0.00061	U	< 1.1	U	0.00068	J	< 0.77	U	< 0.13	U	0.00062	J	< 0.00057	U	< 0.47	U	< 0.51	U
Chloromethane	mg/kg	0.0049	< 0.00091	U	< 0.081	U	< 0.00088	U	< 1.5	U	< 0.00094	U	< 1.1	U	< 0.18	U	< 0.00089	U	< 0.00084	U	< 0.65	U	< 0.7	U
cis-1,2-Dichloroethene	mg/kg	0.021	< 0.00075	U	< 0.039	U	< 0.00073	U	< 0.7	U	< 0.00077	U	< 0.51	U	< 0.086	U	< 0.00073	U	< 0.00069	U	< 0.31	U	< 0.33	U
cis-1,3-Dichloropropene	mg/kg	0.00015*	< 0.00073	U	< 0.042	U	< 0.0007	U	< 0.77	U	< 0.00075	U	< 0.56	U	< 0.094	U	< 0.00071	U	< 0.00067	U	< 0.34	U	< 0.36	U
Cyclohexane	mg/kg	1.3	< 0.0004	U	< 0.035	U	< 0.00039	U	< 0.63	U	< 0.00041	U	< 0.46	U	< 0.077	U	< 0.00039	U	< 0.00036	U	< 0.28	U	< 0.3	U
Dibromochloromethane	mg/kg	0.021	< 0.00076	U	< 0.038	U	< 0.00074	U	< 0.69	U	< 0.00078	U	< 0.5	U	< 0.084	U	< 0.00074	U	< 0.0007	U	< 0.3	U	< 0.32	U
Dichlorodifluoromethane	mg/kg	0.03	< 0.00071	U	< 0.037	U	< 0.00069	U	< 0.67	U	< 0.00073	U	< 0.49	U	< 0.082	U	< 0.00069	U	< 0.00065	U	< 0.3	U	< 0.32	U
Ethylbenzene	mg/kg	0.78	< 0.00069	U	< 0.036	U	< 0.00067	U	< 0.66	U	< 0.00071	U	< 0.48	U	< 0.08	U	< 0.00067	U	< 0.00063	U	< 0.29	U	< 0.31	U
Isopropylbenzene	mg/kg	0.064	< 0.00073	U	< 0.031	U	< 0.0007	U	< 0.56	U	< 0.00075	U	< 0.41	U	< 0.069	U	< 0.00071	U	< 0.00067	U	< 0.25	U	< 0.27	U
m,p-Xylenes	mg/kg	0.018	< 0.0016	U	< 0.075	U	< 0.0015	U	< 1.4	U	< 0.0016	U	< 0.98	U	< 0.17	U	< 0.0015	U	< 0.0014	U	< 0.6	U	< 0.64	U
Methyl Acetate	mg/kg	0.32	< 0.00097	U	< 0.072	U	< 0.00094	U	< 1.3	U	< 0.00099	U	< 0.94	U	< 0.16	U	< 0.00094	U	< 0.00088	U	< 0.58	U	< 0.62	U
Methyl tert-butyl ether	mg/kg	0.0028	< 0.0008	U	< 0.06	U	< 0.00078	U	< 1.1	U	< 0.00082	U	< 0.79	U	< 0.13	U	< 0.00078	U	< 0.00073	U	< 0.48	U	< 0.51	U
Methylcyclohexane	mg/kg		< 0.00078	U	< 0.032	U	< 0.00075	U	< 0.59	U	< 0.0008	U	< 0.43	U	< 0.072	U	< 0.00076	U	< 0.00071	U	< 0.26	U	< 0.28	U
Methylene Chloride	mg/kg	0.0013	0.0011	U	< 0.063	U	0.0051	U	< 1.2	U	0.0046	U	< 0.84	U	< 0.14	U	0.00077	J	< 0.00066	U	< 0.51	U	< 0.55	U
o-Xylene	mg/kg	0.019	< 0.00084	U	< 0.043	U	< 0.00081	U	< 0.78	U	< 0.00086	U	< 0.56	U	< 0.095	U	< 0.00081	U	< 0.00076	U	< 0.34	U	< 0.37	U
Styrene	mg/kg	0.11	< 0.00076	U	< 0.037	U	< 0.00073	U	< 0.68	U	< 0.00078	U	< 0.49	U	< 0.083	U	< 0.00074	U	< 0.00069	U	< 0.3	U	< 0.32	U
Tetrachloroethene	mg/kg	0.0023	< 0.00073	U	< 0.048	U	< 0.00071	U	< 0.87	U	< 0.00075	U	< 0.63	U	< 0.11	U	< 0.00071	U	< 0.00067	U	< 0.39	U	< 0.41	U
Toluene	mg/kg	0.69	< 0.00078	U	< 0.049	U	< 0.00076	U	< 0.9	U	< 0.0008	U	< 0.65	U	0.15	J	< 0.00076	U	< 0.00072	U	< 0.4	U	< 0.42	U
trans-1,2-Dichloro																								

TABLE 12
VARVED CLAY - VOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	Units	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	VC-1 20 - 20.5 ft		VC-2 17 - 18 ft		VC-2 21.5 - 22 ft		VC-3 19 - 19.5 ft		VC-3 24.5 - 25 ft		VC-4 19.5 - 20 ft		VC-4 24.5 - 25 ft		VC-5 17.5 - 18 ft		VC-5 24.5 - 25 ft	
				Varved Clay		Varved Clay		Varved Clay		Varved Clay		Varved Clay		Varved Clay		Varved Clay		Varved Clay		Varved Clay	
				10/22/2013		10/18/2013		10/18/2013		10/22/2013		10/22/2013		10/29/2013		10/29/2013		10/28/2013		10/29/2013	
1,1,1-Trichloroethane	mg/kg		0.07	< 0.00056	U	< 0.11	U	< 0.00057	U	< 0.97	U	< 0.00055	U	< 0.4	U	< 0.00051	U	< 0.12	U	< 0.00057	U
1,1,2,2-Tetrachloroethane	mg/kg		0.000026	< 0.00083	U	< 0.1	U	< 0.00084	U	< 0.88	U	< 0.00081	U	< 0.37	U	< 0.00075	U	< 0.11	U	< 0.00084	U
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg		13	< 0.0012	U	< 0.036	U	< 0.0012	U	< 0.31	U	< 0.0012	U	< 0.13	U	< 0.0011	U	< 0.039	U	< 0.0012	U
1,1,2-Trichloroethane	mg/kg		0.0016	< 0.00096	U	< 0.13	U	< 0.00097	U	< 1.1	U	< 0.00093	U	< 0.45	U	< 0.00087	U	< 0.14	U	< 0.00097	U
1,1-Dichloroethane	mg/kg		0.00068	< 0.00066	U	< 0.11	U	< 0.00067	U	< 0.95	U	< 0.00065	U	< 0.4	U	< 0.0006	U	< 0.12	U	< 0.00067	U
1,1-Dichloroethene	mg/kg		0.0025	< 0.00098	U	< 0.12	U	< 0.00099	U	< 1	U	< 0.00095	U	< 0.42	U	< 0.00089	U	< 0.13	U	< 0.00099	U
1,2,3-Trichlorobenzene	mg/kg		0.0015	< 0.00097	U	0.3	J	< 0.00099	U	15		< 0.00095	U	24		< 0.00089	U	5.3		< 0.00098	U
1,2,4-Trichlorobenzene	mg/kg		0.2	< 0.001	U	0.47	J	0.0014	J	9.1		< 0.00099	U	17		< 0.00092	U	4.8		< 0.001	U
1,2-Dibromo-3-chloropropane	mg/kg		0.000086	< 0.00086	U	< 0.038	U	< 0.00087	U	< 0.33	U	< 0.00084	U	< 0.14	U	< 0.00078	U	< 0.042	U	< 0.00087	U
1,2-Dibromoethane	mg/kg		0.000014	< 0.00099	U	< 0.066	U	< 0.001	U	< 0.58	U	< 0.00097	U	< 0.24	U	< 0.0009	U	< 0.073	U	< 0.001	U
1,2-Dichlorobenzene	mg/kg		0.58	< 0.00092	U	13		< 0.00093	U	6.6		< 0.0009	U	15		< 0.00084	U	7.5		< 0.00093	U
1,2-Dichloroethane	mg/kg		0.0014	< 0.00071	U	< 0.1	U	< 0.00072	U	< 0.9	U	< 0.00069	U	< 0.38	U	< 0.00064	U	< 0.11	U	< 0.00071	U
1,2-Dichloropropane	mg/kg		0.0017	< 0.00062	U	< 0.14	U	< 0.00063	U	< 1.2	U	< 0.00061	U	< 0.5	U	< 0.00057	U	< 0.15	U	< 0.00063	U
1,3,5-Trichlorobenzene	mg/kg			< 0.0011	U	< 0.05	U	< 0.0011	U	< 0.44	U	< 0.0011	U	< 0.18	U	< 0.001	U	< 0.055	U	< 0.0011	U
1,3-Dichlorobenzene	mg/kg			< 0.00075	U	11		< 0.00077	U	3	J	< 0.00074	U	4.9		< 0.00069	U	2.1		< 0.00076	U
1,4-Dichlorobenzene	mg/kg		0.072	0.0014	J	15		< 0.00074	U	4.9		< 0.00072	U	6.9		< 0.00067	U	3.8		< 0.00074	U
1,4-Dioxane	mg/kg		0.00014	< 0.32	U	< 11	U	< 0.32	U	< 92	U	< 0.31	U	< 38	U	< 0.29	U	< 12	U	< 0.32	U
2-Butanone	mg/kg		0.1	< 0.001	U	< 0.12	U	< 0.001	U	< 1	U	< 0.00099	U	< 0.42	U	< 0.00092	U	< 0.13	U	< 0.001	U
2-Hexanone	mg/kg		0.00079	< 0.00079	U	< 0.062	U	< 0.00081	U	< 0.54	U	< 0.00078	U	< 0.22	U	< 0.00072	U	< 0.068	U	< 0.0008	U
4-Methyl-2-Pentanone (MIBK)	mg/kg		0.023	< 0.00075	U	< 0.064	U	< 0.00076	U	< 0.56	U	< 0.00073	U	< 0.23	U	< 0.00068	U	< 0.071	U	< 0.00076	U
Acetone	mg/kg		0.24	< 0.0057	U	< 0.54	U	< 0.0058	U	< 4.7	U	0.0087	J	< 2	U	< 0.0052	U	< 0.6	U	< 0.0058	U
Benzene	mg/kg		0.0026	< 0.00078	U	0.11	J	< 0.00079	U	< 0.93	U	< 0.00076	U	< 0.39	U	< 0.00071	U	< 0.12	U	< 0.00079	U
Bromochloromethane	mg/kg		0.0021	< 0.00079	U	< 0.11	U	< 0.0008	U	< 0.95	U	< 0.00077	U	< 0.39	U	< 0.00072	U	< 0.12	U	< 0.0008	U
Bromodichloromethane	mg/kg		0.022	< 0.00065	U	< 0.1	U	< 0.00066	U	< 0.88	U	< 0.00063	U	< 0.36	U	< 0.00059	U	< 0.11	U	< 0.00065	U
Bromoform	mg/kg		0.021	< 0.00051	U	< 0.12	U	< 0.00052	U	< 1	U	< 0.0005	U	< 0.42	U	< 0.00046	U	< 0.13	U	< 0.00051	U
Bromomethane	mg/kg		0.00018	< 0.00085	U	< 0.17	U	< 0.00086	U	< 1.5	U	< 0.00083	U	< 0.62	U	< 0.00077	U	< 0.19	U	< 0.00086	U
Carbon Disulfide	mg/kg		0.021	< 0.00059	U	< 0.12	U	< 0.0006	U	< 1	U	< 0.00058	U	< 0.42	U	< 0.00054	U	< 0.13	U	< 0.0006	U
Carbon Tetrachloride	mg/kg		0.0019	< 0.00051	U	< 0.12	U	< 0.00052	U	< 1	U	< 0.0005	U	< 0.42	U	< 0.00047	U	< 0.13	U	< 0.00052	U
Chlorobenzene	mg/kg		0.068	< 0.00087	U	0.89		< 0.00088	U	< 0.49	U	< 0.00085	U	0.61	J	< 0.00079	U	0.41	J	< 0.00088	U
Chloroethane	mg/kg		0.59	< 0.0018	U	< 0.081	U	< 0.0018	U	< 0.7	U	< 0.0017	U	< 0.29	U	< 0.0016	U	< 0.089	U	< 0.0018	U
Chloroform	mg/kg		0.022	< 0.00067	U	< 0.11	U	0.00077	U	< 0.95	U	< 0.00066	U	< 0.39	U	0.00061	J	< 0.12	U	< 0.00068	U
Chloromethane	mg/kg		0.0049	< 0.00098	U	< 0.15	U	< 0.001	U	< 1.3	U	< 0.00096	U	< 0.54	U	< 0.00089	U	< 0.17	U	< 0.00099	U
cis-1,2-Dichloroethene	mg/kg		0.021	< 0.00081	U	< 0.072	U	< 0.00082	U	< 0.63	U	< 0.00079	U	< 0.26	U	< 0.00074	U	< 0.079	U	< 0.00082	U
cis-1,3-Dichloropropene	mg/kg		0.00015*	< 0.00078	U	< 0.079	U	< 0.00079	U	< 0.68	U	< 0.00076	U	< 0.28	U	< 0.00071	U	< 0.087	U	< 0.00079	U
Cyclohexane	mg/kg		1.3	< 0.00043	U	< 0.065	U	< 0.00043	U	< 0.56	U	< 0.00042	U	< 0.23	U	< 0.00039	U	< 0.071	U	< 0.00043	U
Dibromochloromethane	mg/kg		0.021	< 0.00082	U	< 0.07	U	< 0.00083	U	< 0.61	U	< 0.0008	U	< 0.25	U	< 0.00074	U	< 0.077	U	< 0.00083	U
Dichlorodifluoromethane	mg/kg		0.03	< 0.00077	U	< 0.069	U	< 0.00078	U	< 0.6	U	< 0.00075	U	< 0.25	U	< 0.0007	U	< 0.076	U	< 0.00077	U
Ethylbenzene	mg/kg		0.78	< 0.00074	U	< 0.067	U	< 0.00075	U	< 0.58	U	< 0.00072	U	< 0.24	U	< 0.00067	U	< 0.074	U	< 0.00075	U
Isopropylbenzene	mg/kg		0.064	< 0.00078	U	< 0.058	U	< 0.00079	U	< 0.5	U	< 0.00076	U	< 0.21	U	< 0.00071	U	< 0.063	U	< 0.00079	U
m,p-Xylenes	mg/kg		0.018	< 0.0017	U	< 0.14	U	< 0.0017	U	< 1.2	U	< 0.0016	U	< 0.5	U	< 0.0015	U	< 0.15	U	< 0.0017	U
Methyl Acetate	mg/kg		0.32	< 0.001	U	< 0.13	U	< 0.0011	U	< 1.2	U	< 0.001	U	< 0.48	U	< 0.00094	U	< 0.15	U	< 0.001	U
Methyl tert_butyl ether	mg/kg		0.0028	< 0.00086	U	< 0.11	U	< 0.00087	U	< 0.96	U	< 0.00084	U	< 0.4	U	< 0.00078	U	< 0.12	U	< 0.00087	U
Methylcyclohexane	mg/kg			< 0.00083	U	< 0.06	U	< 0.00085	U	< 0.52</											

Notes:
U - not detected at reported concentration
J - estimated result
* - value is for total 1,3-dichloropropene

TABLE 13
VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code	EPA Regional	D-14		D-15		D-15		D-16		D-17		D-18		D-19		D-20		D-20		D-21		D-21		D-22		D-23	
	sample depth	Screening Levels	19 - 19.5 ft		17 - 17.5 ft		22.5 - 23 ft		20 - 20.5 ft		20 - 20.5 ft		17.5 - 18 ft		19.5 - 20 ft		19 - 19.5 ft		24.5 - 25 ft		18.75 - 19.25 ft		23.5 - 24 ft		17.5 - 18 ft		17.6 - 18.1 ft	
	stratum	Soil to Groundwater	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	Varved Clay	
sample_date		TR=1E-06, THQ=0.1	10/15/2013	10/21/2013	10/21/2013	10/16/2013	10/16/2013	10/21/2013	10/17/2013	10/28/2013	10/28/2013	10/28/2013	10/18/2013	10/18/2013	10/17/2013	10/30/2013												
Units																												
1,1'-Biphenyl	mg/kg	0.00087	< 0.058	U	< 0.057	U	< 0.057	U	< 0.059	U	< 0.039	U	< 0.056	U	< 0.055	U	< 0.057	U	< 0.059	U	< 0.036	U	< 0.04	U	< 0.059	U	< 0.054	U
1,2,4,5-Tetrachlorobenzene	mg/kg	0.00058	< 0.059	U	< 0.057	U	< 0.057	U	< 0.059	U	< 0.033	U	< 0.057	U	< 0.055	U	< 0.057	U	< 0.059	U	< 0.031	U	< 0.034	U	< 0.059	U	< 0.054	U
2,2'-Oxybis(1-Chloropropane)	mg/kg	0.00011	< 0.048	U	< 0.047	U	< 0.047	U	< 0.048	U	< 0.0094	U	< 0.046	U	< 0.046	U	< 0.047	U	< 0.049	U	< 0.0088	U	< 0.0096	U	< 0.048	U	< 0.044	U
2,3,4,6-Tetrachlorophenol	mg/kg	0.11	< 0.057	U	< 0.055	U	< 0.055	U	< 0.057	U	< 0.028	U	< 0.055	U	< 0.053	U	< 0.055	U	< 0.057	U	< 0.026	U	< 0.029	U	< 0.057	U	< 0.052	U
2,4,5-Trichlorophenol	mg/kg	0.33	< 0.056	U	< 0.054	U	< 0.055	U	< 0.057	U	< 0.047	U	< 0.054	U	< 0.053	U	< 0.055	U	< 0.057	U	< 0.044	U	< 0.048	U	< 0.056	U	< 0.052	U
2,4,6-Trichlorophenol	mg/kg	0.0034	< 0.051	U	< 0.049	U	< 0.05	U	< 0.051	U	< 0.065	U	< 0.049	U	< 0.048	U	< 0.049	U	< 0.052	U	< 0.061	U	< 0.067	U	< 0.051	U	< 0.047	U
2,4-Dichlorophenol	mg/kg	0.0041	< 0.064	U	0.2	J	< 0.062	U	< 0.064	U	< 0.0088	U	< 0.061	U	< 0.06	U	< 0.062	U	< 0.064	U	< 0.0082	U	< 0.0089	U	0.13	J	< 0.059	U
2,4-Dimethylphenol	mg/kg	0.032	< 0.11	U	< 0.1	U	< 0.11	U	< 0.11	U	< 0.068	U	< 0.1	U	< 0.1	U	0.26	J	< 0.11	U	< 0.064	U	< 0.07	U	< 0.11	U	< 0.099	U
2,4-Dinitrophenol	mg/kg	0.0034	< 0.25	U	< 0.24	U	< 0.24	U	< 0.25	U	< 0.52	U	< 0.24	U	< 0.23	U	< 0.24	U	< 0.25	U	< 0.49	U	< 0.53	U	< 0.25	U	< 0.23	U
2,4-Dinitrotoluene	mg/kg	0.00028	< 0.014	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.035	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.015	U	< 0.033	U	< 0.036	U	< 0.014	U	< 0.013	U
2,6-Dinitrotoluene	mg/kg	0.000058	< 0.013	U	< 0.013	U	< 0.013	U	< 0.013	U	< 0.045	U	< 0.013	U	< 0.012	U	< 0.013	U	< 0.013	U	< 0.042	U	< 0.046	U	< 0.013	U	< 0.012	U
2-Chloronaphthalene	mg/kg	0.29	< 0.049	U	< 0.047	U	< 0.048	U	< 0.049	U	< 0.0091	U	< 0.047	U	< 0.046	U	< 0.047	U	< 0.049	U	< 0.0085	U	< 0.0093	U	< 0.049	U	< 0.045	U
2-Chlorophenol	mg/kg	0.0057	< 0.057	U	< 0.055	U	< 0.056	U	< 0.058	U	< 0.036	U	< 0.055	U	< 0.054	U	< 0.056	U	< 0.058	U	< 0.033	U	< 0.036	U	< 0.058	U	< 0.053	U
2-Methylnaphthalene	mg/kg	0.014	< 0.056	U	< 0.054	U	< 0.055	U	< 0.056	U	< 0.0079	U	< 0.054	U	< 0.053	U	0.12	J	< 0.057	U	< 0.0073	U	< 0.008	U	< 0.056	U	< 0.052	U
2-Methylphenol	mg/kg	0.058	< 0.074	U	< 0.072	U	< 0.073	U	< 0.075	U	< 0.031	U	< 0.072	U	< 0.07	U	< 0.072	U	< 0.075	U	< 0.029	U	< 0.031	U	< 0.075	U	< 0.069	U
2-Nitroaniline	mg/kg	0.0062	< 0.18	U	< 0.18	U	< 0.18	U	< 0.18	U	< 0.2	U	< 0.18	U	< 0.17	U	< 0.18	U	< 0.18	U	< 0.18	U	< 0.2	U	< 0.18	U	< 0.17	U
2-Nitrophenol	mg/kg		< 0.049	U	< 0.047	U	< 0.048	U	< 0.049	U	< 0.048	U	< 0.047	U	< 0.046	U	< 0.047	U	< 0.049	U	< 0.045	U	< 0.049	U	< 0.049	U	< 0.045	U
3,3'-Dichlorobenzidine	mg/kg	0.00071	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.046	U	< 0.15	U	< 0.14	U	< 0.15	U	< 0.15	U	< 0.043	U	< 0.047	U	< 0.15	U	< 0.14	U
3-Nitroaniline	mg/kg		< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.18	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.16	U	< 0.17	U	< 0.18	U	< 0.15	U	< 0.14	U
4,6-Dinitro-2-Methylphenol	mg/kg	0.0002	< 0.12	U	< 0.11	U	< 0.12	U	< 0.12	U	< 0.18	U	< 0.11	U	< 0.11	U	< 0.12	U	< 0.12	U	< 0.16	U	< 0.18	U	< 0.12	U	< 0.11	U
4-Bromophenyl-phenylether	mg/kg		< 0.043	U	< 0.042	U	< 0.042	U	< 0.043	U	< 0.038	U	< 0.042	U	< 0.041	U	< 0.042	U	< 0.044	U	< 0.035	U	< 0.039	U	< 0.043	U	< 0.04	U
4-Chloro-3-methylphenol	mg/kg	0.13	< 0.066	U	< 0.064	U	< 0.064	U	< 0.066	U	< 0.04	U	< 0.063	U	< 0.062	U	< 0.064	U	< 0.066	U	< 0.038	U	< 0.041	U	< 0.066	U	< 0.061	U
4-Chloroaniline	mg/kg	0.00013	< 0.12	U	< 0.11	U	< 0.11	U	< 0.12	U	< 0.035	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.12	U	< 0.033	U	< 0.036	U	< 0.12	U	< 0.11	U
4-Chlorophenyl-phenylether	mg/kg		< 0.051	U	< 0.05	U	< 0.05	U	< 0.051	U	< 0.049	U	< 0.049	U	< 0.048	U	< 0.05	U	< 0.052	U	< 0.045	U	< 0.05	U	< 0.051	U	< 0.047	U
4-Methylphenol																												

TABLE 13 VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS STANDARD CHLORINE CHEMICAL CO. INC. SITE KEARNY, NEW JERSEY																												
sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	D-14 19 - 19.5 ft Varved Clay 10/15/2013		D-15 17 - 17.5 ft Varved Clay 10/21/2013		D-15 22.5 - 23 ft Varved Clay 10/21/2013		D-16 20 - 20.5 ft Varved Clay 10/16/2013		D-17 20 - 20.5 ft Varved Clay 10/16/2013		D-18 17.5 - 18 ft Varved Clay 10/21/2013		D-19 19.5 - 20 ft Varved Clay 10/17/2013		D-20 19 - 19.5 ft Varved Clay 10/28/2013		D-20 24.5 - 25 ft Varved Clay 10/28/2013		D-21 18.75 - 19.25 ft Varved Clay 10/18/2013		D-21 23.5 - 24 ft Varved Clay 10/18/2013		D-22 17.5 - 18 ft Varved Clay 10/17/2013		D-23 17.6 - 18.1 ft Varved Clay 10/30/2013		
		chemical_name	Units																									
Hexachlorobutadiene	mg/kg	0.0005	< 0.011	U	< 0.01	U	< 0.01	U	< 0.011	U	< 0.0098	U	< 0.01	U	< 0.01	U	< 0.01	U	< 0.011	U	< 0.0091	U	< 0.01	U	< 0.011	U	< 0.0098	U
Hexachlorocyclopentadiene	mg/kg	0.16	< 0.051	U	< 0.05	U	< 0.05	U	< 0.052	U	< 0.047	U	< 0.049	U	< 0.048	U	< 0.05	U	< 0.052	U	< 0.044	U	< 0.048	U	< 0.051	U	< 0.047	U
Hexachloroethane	mg/kg	0.00031	< 0.0049	U	< 0.0047	U	< 0.0047	U	< 0.0049	U	< 0.031	U	< 0.0047	U	< 0.0046	U	< 0.0047	U	< 0.0049	U	< 0.029	U	< 0.032	U	< 0.0049	U	< 0.0045	U
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	< 0.0081	U	< 0.0078	U	< 0.0079	U	< 0.0081	U	< 0.009	U	< 0.0078	U	< 0.0077	U	< 0.0079	U	< 0.0082	U	< 0.0084	U	< 0.0092	U	< 0.0081	U	< 0.0075	U
Isophorone	mg/kg	0.022	< 0.053	U	< 0.051	U	< 0.052	U	< 0.053	U	< 0.033	U	< 0.051	U	< 0.05	U	< 0.051	U	< 0.053	U	< 0.031	U	< 0.034	U	< 0.053	U	< 0.049	U
Naphthalene	mg/kg	0.00047	< 0.051	U	< 0.049	U	< 0.049	U	< 0.051	U	< 0.0075	U	< 0.049	U	< 0.048	U	0.25	J	< 0.051	U	< 0.007	U	< 0.0077	U	< 0.051	U	< 0.047	U
Nitrobenzene	mg/kg	0.000079	< 0.0062	U	< 0.006	U	< 0.0061	U	< 0.0062	U	< 0.036	U	< 0.006	U	< 0.0058	U	< 0.006	U	< 0.0063	U	< 0.034	U	< 0.037	U	< 0.0062	U	< 0.0057	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.000007	< 0.0073	U	< 0.007	U	< 0.0071	U	< 0.0073	U	< 0.01	U	< 0.007	U	< 0.0069	U	< 0.0071	U	< 0.0074	U	< 0.0096	U	< 0.01	U	< 0.0073	U	< 0.0067	U
N-Nitrosodiphenylamine	mg/kg	0.057	< 0.043	U	< 0.042	U	< 0.042	U	< 0.043	U	< 0.04	U	< 0.041	U	< 0.041	U	< 0.042	U	< 0.043	U	< 0.038	U	< 0.041	U	< 0.043	U	< 0.04	U
Pentachlorophenol	mg/kg	0.01	< 0.13	U	< 0.13	U	< 0.13	U	< 0.13	U	< 0.039	U	< 0.13	U	< 0.12	U	< 0.13	U	< 0.13	U	< 0.036	U	< 0.04	U	< 0.13	U	< 0.12	U
Phenanthrene	mg/kg		< 0.056	U	< 0.054	U	< 0.054	U	< 0.056	U	< 0.014	U	< 0.053	U	< 0.052	U	< 0.054	U	< 0.056	U	< 0.013	U	< 0.014	U	< 0.056	U	< 0.051	U
Phenol	mg/kg	0.26	< 0.059	U	< 0.057	U	< 0.057	U	< 0.059	U	< 0.01	U	< 0.056	U	< 0.055	U	< 0.057	U	< 0.059	U	< 0.0096	U	< 0.011	U	< 0.059	U	< 0.054	U
Pyrene	mg/kg	0.95	< 0.037	U	< 0.035	U	< 0.036	U	< 0.037	U	< 0.0088	U	< 0.035	U	< 0.034	U	< 0.035	U	< 0.037	U	< 0.0082	U	< 0.009	U	< 0.037	U	< 0.034	U

Notes:
 U - not detected at reported concentration
 J - estimated result

TABLE 13
VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	Units	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	D-23 22.5 - 23 ft Varved Clay 10/30/2013	D-24 17.5 - 18 ft Varved Clay 10/30/2013	D-24 22.5 - 23 ft Varved Clay 10/30/2013	D-25 19 - 19.5 ft Varved Clay 10/30/2013	D-25 24 - 24.5 ft Varved Clay 10/30/2013	D-26 18.25 - 18.75 Varved Clay 10/31/2013	D-27 20.5 - 21 ft Varved Clay 10/31/2013	VC-1 15 - 15.5 ft Varved Clay 10/22/2013	VC-1 DUP 15 - 15.5 ft Varved Clay 10/22/2013	VC-1 20 - 20.5 ft Varved Clay 10/22/2013	VC-2 17 - 18 ft Varved Clay 10/18/2013	VC-2 21.5 - 22 ft Varved Clay 10/18/2013	VC-3 19 - 19.5 ft Varved Clay 10/22/2013															
			10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013	10/31/2013	10/31/2013	10/22/2013	10/22/2013	10/22/2013	10/18/2013	10/18/2013	10/22/2013															
1,1'-Biphenyl	mg/kg	0.00087	< 0.058	U	< 0.056	U	< 0.059	U	< 0.056	U	< 0.055	U	< 0.054	U	< 0.054	U	< 0.038	U	< 0.039	U	< 0.054	U								
1,2,4,5-Tetrachlorobenzene	mg/kg	0.00058	< 0.059	U	< 0.056	U	< 0.059	U	< 0.056	U	< 0.056	U	< 0.054	U	< 0.054	U	< 0.059	U	< 0.032	U	< 0.033	U	< 0.055	U						
2,2'-Oxybis(1-Chloropropane)	mg/kg	0.00011	< 0.048	U	< 0.046	U	< 0.048	U	< 0.046	U	< 0.046	U	< 0.045	U	< 0.045	U	< 0.048	U	< 0.0091	U	< 0.0094	U	< 0.045	U						
2,3,4,6-Tetrachlorophenol	mg/kg	0.11	< 0.057	U	< 0.054	U	< 0.057	U	< 0.054	U	< 0.056	U	< 0.054	U	< 0.052	U	< 0.052	U	< 0.057	U	< 0.027	U	< 0.028	U	< 0.053	U				
2,4,5-Trichlorophenol	mg/kg	0.33	< 0.056	U	< 0.054	U	< 0.056	U	< 0.054	U	< 0.056	U	< 0.053	U	< 0.053	U	< 0.052	U	< 0.052	U	< 0.056	U	< 0.045	U	< 0.047	U	< 0.052	U		
2,4,6-Trichlorophenol	mg/kg	0.0034	< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.051	U	< 0.048	U	< 0.048	U	< 0.047	U	< 0.047	U	< 0.051	U	< 0.063	U	< 0.065	U	< 0.048	U		
2,4-Dichlorophenol	mg/kg	0.0041	< 0.064	U	< 0.061	U	< 0.064	U	0.31	J	< 0.064	U	< 0.06	U	< 0.06	U	0.075	J	< 0.059	U	< 0.064	U	0.17		< 0.0088	U	< 0.059	U		
2,4-Dimethylphenol	mg/kg	0.032	< 0.11	U	< 0.1	U	< 0.11	U	< 0.1	U	< 0.11	U	0.77		< 0.099	U	< 0.099	U	< 0.11	U	< 0.066	U	< 0.068	U	1.1					
2,4-Dinitrophenol	mg/kg	0.0034	< 0.25	U	< 0.24	U	< 0.25	U	< 0.24	U	< 0.25	U	< 0.23	U	< 0.23	U	< 0.23	U	< 0.23	U	< 0.25	U	< 0.5	U	< 0.52	U	< 0.23	U		
2,4-Dinitrotoluene	mg/kg	0.00028	< 0.014	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.014	U	< 0.013	U	< 0.013	U	< 0.014	U	< 0.034	U	< 0.035	U	< 0.013	U		
2,6-Dinitrotoluene	mg/kg	0.000058	< 0.013	U	< 0.013	U	< 0.013	U	< 0.013	U	< 0.013	U	< 0.012	U	< 0.012	U	< 0.012	U	< 0.012	U	< 0.013	U	< 0.044	U	< 0.045	U	< 0.012	U		
2-Chloronaphthalene	mg/kg	0.29	< 0.049	U	< 0.047	U	< 0.049	U	< 0.046	U	< 0.048	U	< 0.046	U	< 0.046	U	< 0.045	U	< 0.045	U	< 0.049	U	< 0.0088	U	< 0.0091	U	< 0.045	U		
2-Chlorophenol	mg/kg	0.0057	< 0.057	U	< 0.055	U	< 0.058	U	< 0.055	U	< 0.057	U	< 0.054	U	< 0.054	U	< 0.053	U	< 0.053	U	< 0.057	U	< 0.035	U	< 0.036	U	< 0.053	U		
2-Methylnaphthalene	mg/kg	0.014	< 0.056	U	< 0.054	U	< 0.056	U	< 0.053	U	< 0.056	U	< 0.053	U	< 0.053	U	< 0.052	U	< 0.052	U	< 0.056	U	< 0.0076	U	< 0.0078	U	0.32	J		
2-Methylphenol	mg/kg	0.058	< 0.074	U	< 0.071	U	< 0.075	U	< 0.071	U	< 0.074	U	< 0.07	U	< 0.07	U	< 0.069	U	< 0.069	U	< 0.074	U	< 0.03	U	< 0.03	U	0.59			
2-Nitroaniline	mg/kg	0.0062	< 0.18	U	< 0.17	U	< 0.18	U	< 0.17	U	< 0.18	U	< 0.17	U	< 0.17	U	< 0.17	U	< 0.17	U	< 0.18	U	< 0.19	U	< 0.2	U	< 0.17	U		
2-Nitrophenol	mg/kg		< 0.049	U	< 0.047	U	< 0.049	U	< 0.046	U	< 0.048	U	< 0.046	U	< 0.046	U	< 0.045	U	< 0.045	U	< 0.049	U	< 0.047	U	< 0.047	U	< 0.048	U	< 0.045	U
3,3'-Dichlorobenzidine	mg/kg	0.00071	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.14	U	< 0.14	U	< 0.14	U	< 0.14	U	< 0.15	U	< 0.045	U	< 0.046	U	< 0.14	U		
3-Nitroaniline	mg/kg		< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.15	U	< 0.14	U	< 0.14	U	< 0.15	U	< 0.17	U	< 0.18	U	< 0.14	U		
4,6-Dinitro-2-Methylphenol	mg/kg	0.0002	< 0.12	U	< 0.11	U	< 0.12	U	< 0.11	U	< 0.12	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.12	U	< 0.17	U	< 0.18	U	< 0.11	U		
4-Bromophenyl-phenylether	mg/kg		< 0.043	U	< 0.041	U	< 0.043	U	< 0.041	U	< 0.043	U	< 0.041	U	< 0.041	U	< 0.04	U	< 0.04	U	< 0.043	U	< 0.037	U	< 0.038	U	< 0.04	U		
4-Chloro-3-methylphenol	mg/kg	0.13	< 0.066	U	< 0.063	U	< 0.066	U	< 0.063	U	< 0.065	U	< 0.062	U	< 0.062	U	< 0.061	U	< 0.061	U	< 0.066	U	< 0.039	U	< 0.04	U	< 0.061	U		
4-Chloroaniline	mg/kg	0.00013	< 0.12	U	< 0.11	U	< 0.12	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.11	U	< 0.12	U	< 0.034	U	< 0.035	U	< 0.11	U		
4-Chlorophenyl-phenylether	mg/kg		< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.051	U	< 0.048	U	< 0.048	U	< 0.047	U	< 0.047	U	< 0.051	U	< 0.047	U	< 0.048	U	< 0.048	U		
4-Methylphenol	mg/kg	0.11	< 0.086	U	< 0.082	U	< 0.086	U	< 0.082	U	< 0.085	U	< 0.081	U	< 0.081	U	< 0.079	U	< 0.079	U	< 0.086	U	< 0.041	U	< 0.043	U	3.7			
4-Nitroaniline	mg/kg	0.0014	< 0.14	U	< 0.13	U	< 0.14	U	< 0.13	U	< 0.14	U	< 0.13	U	< 0.13	U	< 0.13	U	< 0.13	U	< 0.14	U	< 0.17	U	< 0.18	U	< 0.13	U		
4-Nitrophenol	mg/kg		< 0.28	U	< 0.27	U	< 0.28	U	< 0.27	U	< 0.28	U	< 0.27	U	< 0.27	U	< 0.26	U	< 0.26	U	< 0.28	U	< 0.15	U	< 0.16	U	< 0.26	U		
Acenaphthene	mg/kg	0.41	< 0.064	U	< 0.061	U	< 0.064	U	< 0.06	U	< 0.063	U	< 0.06	U	< 0.06	U	< 0.059	U	< 0.059	U	< 0.063	U	< 0.0081	U	< 0.0084	U	< 0.059	U		
Acenaphthylene	mg/kg		< 0.052	U	< 0.049	U	< 0.052	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.049	U	< 0.048	U	< 0.048	U	< 0.051	U	< 0.0097	U	< 0.01	U	< 0.048	U		
Acetophenone	mg/kg	0.045	< 0.067	U	< 0.064	U	< 0.067	U	< 0.064	U	< 0.067	U	< 0.063	U	< 0.063	U	< 0.062	U	< 0.062	U	< 0.067	U	< 0.035	U	< 0.036	U	< 0.062	U		
Anthracene	mg/kg	4.2	< 0.053	U	< 0.051	U	< 0.053	U	< 0.05	U	< 0.053	U	< 0.05	U	< 0.05	U	< 0.049	U	< 0.049	U	< 0.053	U	< 0.0083	U	< 0.0085	U	< 0.049	U		
Atrazine	mg/kg	0.0019	< 0.067	U	< 0.065	U	< 0.068	U	< 0.064	U	< 0.067	U	< 0.064	U	< 0.064	U	< 0.062	U	< 0.062	U	< 0.067	U	< 0.067	U	< 0.041	U	< 0.042	U	< 0.063	U
Benzaldehyde	mg/kg	0.033	< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.049	U	< 0.047	U	< 0.047	U	< 0.051	U	< 0.063	U	< 0.065	U	< 0.048	U		
Benzo(a)anthracene	mg/kg	0.01	< 0.003	U	< 0.0029	U	< 0.0031	U	< 0.0029	U	< 0.003	U	< 0.0029	U	< 0.0029	U	< 0.0028	U	< 0.0028	U	< 0.003	U	< 0.011	U	< 0.011	U	< 0.0028	U		
Benzo(a)pyrene	mg/kg	0.24	< 0.0031	U	< 0.003	U	< 0.0031	U	< 0.0029	U	< 0.0031	U	< 0.0029	U	< 0.0029	U	< 0.0029	U	< 0.0029	U	< 0.0028	U	< 0.0031	U	< 0.0085	U	< 0.0087	U	< 0.0029	U
Benzo(b)fluoranthene	mg/kg	0.035	< 0.0028	U	< 0.0026	U	< 0.0028	U	< 0.0026	U	< 0.0027	U	< 0.0026	U	< 0.0026	U	< 0.0025	U	< 0.0025	U	< 0.0027	U	< 0.0027	U	< 0.013	U	< 0.014	U	< 0.0026	U
Benzo(g,h,i)perylene	mg/kg		< 0.032	U	< 0.031	U	< 0.032	U	< 0.031	U	< 0.032	U	< 0.031	U	< 0.031	U	< 0.03	U	< 0.03	U	< 0.032	U	< 0.032	U	< 0.0084	U	< 0.0087	U	< 0.03	U
Benzo(k)fluoranthene	mg/kg	0.35	< 0.0033	U	< 0.0032	U	< 0.0033	U	< 0.0032	U	< 0.0033	U	< 0.0031	U	< 0.0031	U	< 0.0031	U	< 0.0031	U	< 0.0033	U	< 0.0033	U	< 0.017	U	< 0.018	U	< 0.0031	U
bis(2-Chloroethoxy) Methane	mg/kg	0.0011	< 0.056	U	< 0.054	U	< 0.056	U	< 0.054	U	< 0.056	U	< 0.053	U	< 0.053	U	< 0.052	U	< 0.052	U	< 0.056	U	< 0.056	U	< 0.028	U	< 0.029	U	< 0.052	U
Bis-(2-Chloroethyl) Ether	mg/kg	0.0000031	< 0.006	U	< 0.0057	U	< 0.006	U	< 0.0057	U	< 0.0059	U	< 0.0056	U	< 0.0056	U	< 0.0055	U	< 0.0055	U	< 0.0055	U	< 0.0059	U	< 0.011	U	< 0.012	U	< 0.0055	U
bis(2-Ethylhexyl)phthalate	mg/kg	1.4	< 0.15	U	< 0.14	U	< 0.15	U	< 0.14	U	< 0.14	U	< 0.14	U	< 0.14	U	< 0.13	U	< 0.13	U	< 0.14	U	< 0.14	U	< 0.068	U	< 0.071	U	< 0.14	U
Butylbenzylphthalate	mg/kg	0.2	< 0.04	U</																										

TABLE 13																												
VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS																												
STANDARD CHLORINE CHEMICAL CO. INC. SITE																												
KEARNY, NEW JERSEY																												
sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	D-23 22.5 - 23 ft Varved Clay 10/30/2013	D-24 17.5 - 18 ft Varved Clay 10/30/2013		D-24 22.5 - 23 ft Varved Clay 10/30/2013		D-25 19 - 19.5 ft Varved Clay 10/30/2013		D-25 24 - 24.5 ft Varved Clay 10/30/2013		D-26 18.25 - 18.75 Varved Clay 10/31/2013		D-27 20.5 - 21 ft Varved Clay 10/31/2013		VC-1 15 - 15.5 ft Varved Clay 10/22/2013		VC-1 DUP 15 - 15.5 ft Varved Clay 10/22/2013		VC-1 20 - 20.5 ft Varved Clay 10/22/2013		VC-2 17 - 18 ft Varved Clay 10/18/2013		VC-2 21.5 - 22 ft Varved Clay 10/18/2013		VC-3 19 - 19.5 ft Varved Clay 10/22/2013		
chemical_name	Units																											
Hexachlorobutadiene	mg/kg	0.0005	< 0.011	U	< 0.01	U	< 0.011	U	< 0.01	U	< 0.011	U	< 0.01	U	< 0.01	U	< 0.0098	U	< 0.0098	U	< 0.011	U	< 0.0095	U	< 0.0098	U	< 0.0099	U
Hexachlorocyclopentadiene	mg/kg	0.16	< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.051	U	< 0.049	U	< 0.049	U	< 0.047	U	< 0.047	U	< 0.051	U	< 0.046	U	< 0.047	U	< 0.048	U
Hexachloroethane	mg/kg	0.00031	< 0.0049	U	< 0.0046	U	< 0.0049	U	< 0.0046	U	< 0.0048	U	< 0.0046	U	< 0.0046	U	< 0.0045	U	< 0.0045	U	< 0.0048	U	< 0.03	U	< 0.031	U	< 0.0045	U
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	< 0.0081	U	< 0.0078	U	< 0.0081	U	< 0.0077	U	< 0.0081	U	< 0.0077	U	< 0.0077	U	< 0.0075	U	< 0.0075	U	< 0.0081	U	< 0.0087	U	< 0.009	U	< 0.0076	U
Isophorone	mg/kg	0.022	< 0.053	U	< 0.051	U	< 0.053	U	< 0.05	U	< 0.053	U	< 0.05	U	< 0.05	U	< 0.049	U	< 0.049	U	< 0.053	U	< 0.032	U	< 0.033	U	< 0.049	U
Naphthalene	mg/kg	0.00047	< 0.051	U	< 0.048	U	< 0.051	U	< 0.048	U	< 0.05	U	< 0.048	U	< 0.048	U	< 0.047	U	< 0.047	U	< 0.05	U	< 0.0073	U	< 0.0075	U	0.3	J
Nitrobenzene	mg/kg	0.000079	< 0.0062	U	< 0.0059	U	< 0.0062	U	< 0.0059	U	< 0.0062	U	< 0.0059	U	< 0.0059	U	< 0.0057	U	< 0.0057	U	< 0.0062	U	< 0.035	U	< 0.036	U	< 0.0058	U
N-Nitroso-Di-N-Propylamine	mg/kg	0.000007	< 0.0073	U	< 0.007	U	< 0.0073	U	< 0.0069	U	< 0.0072	U	< 0.0069	U	< 0.0069	U	< 0.0067	U	< 0.0067	U	< 0.0073	U	< 0.0099	U	< 0.01	U	< 0.0068	U
N-Nitrosodiphenylamine	mg/kg	0.057	< 0.043	U	< 0.041	U	< 0.043	U	< 0.041	U	< 0.043	U	< 0.041	U	< 0.041	U	< 0.04	U	< 0.04	U	< 0.043	U	< 0.039	U	< 0.04	U	< 0.04	U
Pentachlorophenol	mg/kg	0.01	< 0.13	U	< 0.12	U	< 0.13	U	< 0.12	U	< 0.13	U	< 0.12	U	< 0.12	U	< 0.12	U	< 0.12	U	< 0.13	U	< 0.038	U	< 0.039	U	< 0.12	U
Phenanthrene	mg/kg		< 0.056	U	< 0.053	U	< 0.056	U	< 0.053	U	< 0.055	U	< 0.053	U	< 0.053	U	< 0.051	U	< 0.051	U	< 0.055	U	< 0.013	U	< 0.014	U	< 0.052	U
Phenol	mg/kg	0.26	< 0.059	U	< 0.056	U	< 0.059	U	< 0.056	U	< 0.058	U	< 0.055	U	< 0.055	U	< 0.054	U	< 0.054	U	< 0.058	U	< 0.01	U	< 0.01	U	1.2	
Pyrene	mg/kg	0.95	< 0.037	U	< 0.035	U	< 0.037	U	< 0.035	U	< 0.036	U	< 0.035	U	< 0.035	U	< 0.034	U	< 0.034	U	< 0.036	U	< 0.0086	U	< 0.0088	U	< 0.034	U

Notes:

U - not detected at reported concentration

J - estimated result

TABLE 13
VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	VC-3 24.5 - 25 ft Varved Clay 10/22/2013	VC-4 19.5 - 20 ft Varved Clay 10/29/2013	VC-4 24.5 - 25 ft Varved Clay 10/29/2013	VC-5 17.5 - 18 ft Varved Clay 10/28/2013	VC-5 24.5 - 25 ft Varved Clay 10/29/2013
chemical_name	Units						
1,1'-Biphenyl	mg/kg	0.00087	< 0.058 U	0.37 J	< 0.059 U	< 0.057 U	< 0.06 U
1,2,4,5-Tetrachlorobenzene	mg/kg	0.00058	< 0.058 U	0.96 J	0.42 J	< 0.058 U	< 0.06 U
2,2'-Oxybis(1-Chloropropane)	mg/kg	0.00011	< 0.048 U	< 0.23 U	< 0.049 U	< 0.047 U	< 0.049 U
2,3,4,6-Tetrachlorophenol	mg/kg	0.11	< 0.057 U	< 0.27 U	< 0.057 U	< 0.056 U	< 0.058 U
2,4,5-Trichlorophenol	mg/kg	0.33	< 0.056 U	< 0.27 U	< 0.057 U	< 0.055 U	< 0.058 U
2,4,6-Trichlorophenol	mg/kg	0.0034	< 0.051 U	< 0.24 U	< 0.052 U	< 0.05 U	< 0.052 U
2,4-Dichlorophenol	mg/kg	0.0041	< 0.064 U	< 0.3 U	< 0.065 U	< 0.063 U	< 0.065 U
2,4-Dimethylphenol	mg/kg	0.032	< 0.11 U	1.6 J	< 0.11 U	0.27 J	< 0.11 U
2,4-Dinitrophenol	mg/kg	0.0034	< 0.25 U	< 1.2 U	< 0.25 U	< 0.24 U	< 0.25 U
2,4-Dinitrotoluene	mg/kg	0.00028	< 0.014 U	< 0.068 U	< 0.015 U	< 0.014 U	< 0.015 U
2,6-Dinitrotoluene	mg/kg	0.000058	< 0.013 U	< 0.063 U	< 0.013 U	< 0.013 U	< 0.013 U
2-Chloronaphthalene	mg/kg	0.29	< 0.048 U	< 0.23 U	< 0.049 U	< 0.048 U	< 0.05 U
2-Chlorophenol	mg/kg	0.0057	< 0.057 U	< 0.27 U	< 0.058 U	< 0.056 U	< 0.059 U
2-Methylnaphthalene	mg/kg	0.014	< 0.056 U	2.2 J	0.43 J	0.14 J	< 0.057 U
2-Methylphenol	mg/kg	0.058	< 0.074 U	< 0.35 U	< 0.075 U	< 0.073 U	< 0.076 U
2-Nitroaniline	mg/kg	0.0062	< 0.18 U	< 0.87 U	< 0.18 U	< 0.18 U	< 0.19 U
2-Nitrophenol	mg/kg		< 0.048 U	< 0.23 U	< 0.049 U	< 0.048 U	< 0.05 U
3,3'-Dichlorobenzidine	mg/kg	0.00071	< 0.15 U	< 0.73 U	< 0.16 U	< 0.15 U	< 0.16 U
3-Nitroaniline	mg/kg		< 0.15 U	< 0.73 U	< 0.16 U	< 0.15 U	< 0.16 U
4,6-Dinitro-2-Methylphenol	mg/kg	0.0002	< 0.12 U	< 0.57 U	< 0.12 U	< 0.12 U	< 0.12 U
4-Bromophenyl-phenylether	mg/kg		< 0.043 U	< 0.21 U	< 0.044 U	< 0.042 U	< 0.044 U
4-Chloro-3-methylphenol	mg/kg	0.13	< 0.066 U	< 0.31 U	< 0.067 U	< 0.065 U	< 0.067 U
4-Chloroaniline	mg/kg	0.00013	< 0.12 U	< 0.55 U	< 0.12 U	< 0.11 U	< 0.12 U
4-Chlorophenyl-phenylether	mg/kg		< 0.051 U	< 0.24 U	< 0.052 U	< 0.05 U	< 0.052 U
4-Methylphenol	mg/kg	0.11	< 0.086 U	5 J	0.1 J	0.43 J	< 0.088 U
4-Nitroaniline	mg/kg	0.0014	< 0.14 U	< 0.65 U	< 0.14 U	< 0.13 U	< 0.14 U
4-Nitrophenol	mg/kg		< 0.28 U	< 1.3 U	< 0.28 U	< 0.28 U	< 0.29 U
Acenaphthene	mg/kg	0.41	< 0.063 U	0.59 J	< 0.064 U	< 0.062 U	< 0.065 U
Acenaphthylene	mg/kg		< 0.051 U	< 0.25 U	< 0.052 U	< 0.051 U	< 0.053 U
Acetophenone	mg/kg	0.045	< 0.067 U	< 0.32 U	< 0.068 U	< 0.066 U	< 0.069 U
Anthracene	mg/kg	4.2	< 0.053 U	< 0.25 U	< 0.054 U	< 0.052 U	< 0.054 U
Atrazine	mg/kg	0.0019	< 0.067 U	< 0.32 U	< 0.068 U	< 0.066 U	< 0.069 U
Benzaldehyde	mg/kg	0.033	< 0.051 U	< 0.24 U	< 0.052 U	< 0.05 U	< 0.053 U
Benzo(a)anthracene	mg/kg	0.01	< 0.003 U	< 0.015 U	< 0.0031 U	< 0.003 U	< 0.0031 U
Benzo(a)pyrene	mg/kg	0.24	< 0.0031 U	< 0.015 U	< 0.0031 U	< 0.003 U	< 0.0032 U
Benzo(b)fluoranthene	mg/kg	0.035	< 0.0027 U	< 0.013 U	< 0.0028 U	< 0.0027 U	< 0.0028 U
Benzo(g,h,i)perylene	mg/kg		< 0.032 U	< 0.15 U	< 0.033 U	< 0.032 U	< 0.033 U
Benzo(k)fluoranthene	mg/kg	0.35	< 0.0033 U	< 0.016 U	< 0.0034 U	< 0.0033 U	< 0.0034 U
bis(2-Chloroethoxy) Methane	mg/kg	0.0011	< 0.056 U	< 0.27 U	< 0.057 U	< 0.055 U	< 0.058 U
Bis-(2-Chloroethyl) Ether	mg/kg	0.0000031	< 0.0059 U	< 0.028 U	< 0.006 U	< 0.0058 U	< 0.0061 U
bis(2-Ethylhexyl)phthalate	mg/kg	1.4	< 0.14 U	< 0.69 U	< 0.15 U	< 0.14 U	0.17 J
Butylbenzylphthalate	mg/kg	0.2	< 0.04 U	< 0.19 U	< 0.041 U	< 0.039 U	< 0.041 U
Caprolactum	mg/kg	0.19	< 0.1 U	< 0.48 U	< 0.1 U	< 0.099 U	< 0.1 U
Carbazole	mg/kg		< 0.051 U	< 0.25 U	< 0.052 U	< 0.051 U	< 0.053 U
Chrysene	mg/kg	1.1	< 0.051 U	< 0.24 U	< 0.052 U	< 0.05 U	< 0.052 U
Dibenz(a,h)anthracene	mg/kg	0.011	< 0.0055 U	< 0.026 U	< 0.0056 U	< 0.0054 U	< 0.0056 U
Dibenzofuran	mg/kg	0.011	< 0.051 U	0.91 J	0.059 J	< 0.05 U	< 0.052 U
Diethylphthalate	mg/kg	0.47	< 0.052 U	< 0.25 U	< 0.053 U	< 0.051 U	< 0.053 U
Dimethylphthalate	mg/kg		< 0.052 U	< 0.25 U	< 0.052 U	< 0.051 U	< 0.053 U
Di-n-Butylphthalate	mg/kg	0.17	< 0.054 U	< 0.26 U	< 0.055 U	< 0.053 U	< 0.055 U
Di-n-Octyl phthalate	mg/kg	4.4	< 0.028 U	< 0.13 U	< 0.028 U	< 0.027 U	< 0.029 U
Fluoranthene	mg/kg	7	< 0.058 U	< 0.28 U	< 0.059 U	< 0.057 U	< 0.06 U
Fluorene	mg/kg	0.4	< 0.056 U	0.44 J	< 0.057 U	< 0.055 U	< 0.057 U
Hexachlorobenzene	mg/kg	0.013	< 0.0059 U	1.5 J	0.029 J	< 0.0059 U	< 0.0061 U

TABLE 13
VARVED CLAY - SEMIVOLATILE ORGANIC COMPOUNDS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	VC-3 24.5 - 25 ft Varved Clay 10/22/2013	VC-4 19.5 - 20 ft Varved Clay 10/29/2013	VC-4 24.5 - 25 ft Varved Clay 10/29/2013	VC-5 17.5 - 18 ft Varved Clay 10/28/2013	VC-5 24.5 - 25 ft Varved Clay 10/29/2013
chemical_name	Units						
Hexachlorobutadiene	mg/kg	0.0005	< 0.011 U	< 0.051 U	< 0.011 U	< 0.01 U	< 0.011 U
Hexachlorocyclopentadiene	mg/kg	0.16	< 0.051 U	< 0.24 U	< 0.052 U	< 0.05 U	< 0.053 U
Hexachloroethane	mg/kg	0.00031	< 0.0048 U	< 0.023 U	< 0.0049 U	< 0.0048 U	< 0.005 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	< 0.0081 U	< 0.039 U	< 0.0082 U	< 0.008 U	< 0.0083 U
Isophorone	mg/kg	0.022	< 0.053 U	< 0.25 U	< 0.054 U	< 0.052 U	< 0.054 U
Naphthalene	mg/kg	0.00047	< 0.05 U	14	3.2	0.26 J	< 0.052 U
Nitrobenzene	mg/kg	0.000079	< 0.0062 U	< 0.03 U	< 0.0063 U	< 0.0061 U	< 0.0064 U
N-Nitroso-Di-N-Propylamine	mg/kg	0.000007	< 0.0073 U	< 0.035 U	< 0.0074 U	< 0.0071 U	< 0.0075 U
N-Nitrosodiphenylamine	mg/kg	0.057	< 0.043 U	< 0.2 U	< 0.044 U	< 0.042 U	< 0.044 U
Pentachlorophenol	mg/kg	0.01	< 0.13 U	< 0.62 U	< 0.13 U	< 0.13 U	< 0.13 U
Phenanthrene	mg/kg		< 0.055 U	0.47 J	< 0.056 U	< 0.055 U	< 0.057 U
Phenol	mg/kg	0.26	< 0.058 U	1.9 J	< 0.059 U	< 0.058 U	< 0.06 U
Pyrene	mg/kg	0.95	< 0.036 U	< 0.17 U	< 0.037 U	< 0.036 U	< 0.037 U

Notes:
U - not detected at reported concentration
J - estimated result

TABLE 14
VARVED CLAY - METALS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

sys_loc_code sample depth stratum sample_date		EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	D-20 19 - 19.5 ft Varved Clay 10/28/2013	D-20 24.5 - 25 ft Varved Clay 10/28/2013	D-21 23.5 - 24 ft Varved Clay 10/18/2013	VC-1 15 - 15.5 ft Varved Clay 10/22/2013	VC-1 20 - 20.5 ft Varved Clay 10/22/2013	VC-2 17 - 18 ft Varved Clay 10/18/2013	VC-2 17.5 - 18 ft Varved Clay 10/18/2013	VC-2 21.5 - 22 ft Varved Clay 10/18/2013	VC-3 19 - 19.5 ft Varved Clay 10/22/2013	VC-3 24.5 - 25 ft Varved Clay 10/22/2013
chemical_name	Units											
Aluminum	mg/kg	2300	11100		12300		14400		13800		10900	
Antimony	mg/kg	0.27	< 1.3	U	< 1.5	U	< 1.5	U	< 1.5	U	-	
Arsenic	mg/kg	0.29	3.2		6.4		7.3		3.4		6.3	
Barium	mg/kg	82	50.5		69.7		79.5		51.8		86	
Beryllium	mg/kg	3.2	0.56		0.59		0.7		0.45		0.69	
Cadmium	mg/kg	0.38	< 0.15	U	< 0.18	U	< 0.17	U	< 0.16	U	< 0.17	U
Calcium	mg/kg		2330		6310		7310		2820		6330	
Chromium	mg/kg	2800000	16.8		29.5		23.6		14.5		22.8	
Chromium, hexavalent	mg/kg	0.00059	-		-		-	J	< 0.19	U	-	
Cobalt	mg/kg	0.021	11.5		12.6		14.8		11.1		13.4	
Copper	mg/kg	46	17.7		22.7		27		17.3		25.4	
Iron	mg/kg	27	25500		31500		36000		22200		32400	
Lead	mg/kg	14	13.7		14.5		16.2		12.3		15.3	
Magnesium	mg/kg		5770		7950		8910		5270		8630	
Manganese	mg/kg	2.1	634		654		788		632		693	
Mercury	mg/kg	0.1	< 0.014	U	< 0.014	U	< 0.015	U	< 0.015	U	< 0.015	U
Nickel	mg/kg	2	26.2		26.9		33.2		23.7		30.2	
Potassium	mg/kg		1350		1790		1900	J	1900		1460	
Selenium	mg/kg	0.26	< 1.3	U	< 1.6	U	< 1.5	U	< 1.4	U	< 1.6	U
Silver	mg/kg	0.06	< 0.2	U	< 0.24	U	< 0.23	U	< 0.22	U	< 0.24	U
Sodium	mg/kg		821	J	605	J	322	J	287	J	331	J
Thallium	mg/kg	0.14	< 1.1	U	< 1.4	U	< 1.3	U	< 1.2	U	< 1.3	U
Vanadium	mg/kg	6.3	16.9		27		27.9		16.2		27.2	
Zinc	mg/kg	29	67.8		67.2		75.7		60.2		71.5	

Notes:
U - not detected at reported concentration
J - estimated result

TABLE 14
VARVED CLAY - METALS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

chemical_name	sys_loc_code sample depth stratum sample_date	EPA Regional Screening Levels Soil to Groundwater TR=1E-06, THQ=0.1	VC-4 19.5 - 20 ft Varved Clay 10/29/2013	VC-4 DUP 19.5 - 20 ft Varved Clay 10/29/2013	VC-4 24.5 - 25 ft Varved Clay 10/29/2013	VC-5 17.5 - 18 ft Varved Clay 10/28/2013	VC-5 24.5 - 25 ft Varved Clay 10/29/2013
	Units						
Aluminum	mg/kg	2300	11300	11700	11500	16300	16200
Antimony	mg/kg	0.27	< 1.4	U	< 1.6	U	< 1.6
Arsenic	mg/kg	0.29	4.2	4.3	5.9	3.8	8.5
Barium	mg/kg	82	73.5	62.1	35.5	J	86.4
Beryllium	mg/kg	3.2	0.4	J	0.5	0.84	0.78
Cadmium	mg/kg	0.38	0.35	J	< 0.16	U	< 0.19
Calcium	mg/kg		2310	2410	8200	2380	7030
Chromium	mg/kg	2800000	57.8	59.7	19.6	162	26.6
Chromium, hexavalent	mg/kg	0.00059	2.3	J	-	8.9	-
Cobalt	mg/kg	0.021	10.5	J	12.4	J	15.3
Copper	mg/kg	46	16.3	16.7	23.4	18.4	28.5
Iron	mg/kg	27	21100	21400	29500	22400	39800
Lead	mg/kg	14	15.8	13.8	13.6	14.6	16
Magnesium	mg/kg		4870	4980	8260	5350	9690
Manganese	mg/kg	2.1	291	293	716	312	752
Mercury	mg/kg	0.1	< 0.015	U	< 0.014	U	< 0.014
Nickel	mg/kg	2	30.2	32.1	26.8	34.2	33
Potassium	mg/kg		1200	1230	1470	1360	2330
Selenium	mg/kg	0.26	< 1.5	U	< 1.7	U	< 1.7
Silver	mg/kg	0.06	< 0.23	U	< 0.25	U	< 0.26
Sodium	mg/kg		799	J	573	J	672
Thallium	mg/kg	0.14	< 1.3	U	< 1.4	U	< 1.5
Vanadium	mg/kg	6.3	21.2	22.1	23.1	38.8	31.8
Zinc	mg/kg	29	135	114	63.4	74.8	81.5

Notes:
U - not detected at reported concentration
J - estimated result

TABLE 15
PZ-13L ANALYTICAL RESULTS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY

Client ID	PZ-13L
Sampling Date	11/11/2013 16:20:00
Unit	ug/l
VOA Method 8260B	
1,1,1-Trichloroethane	6.0 U
1,1,2,2-Tetrachloroethane	16 U
1,1,2-Trichloroethane	19 U
1,1-Dichloroethane	13 U
1,1-Dichloroethene	9.0 U
1,2,3-Trichlorobenzene	51 U
1,2,4-Trichlorobenzene	39 J
1,2-Dibromo-3-Chloropropane	0.085 U
1,2-Dichlorobenzene	19000
1,2-Dichloroethane	19 U
1,2-Dichloropropane	9.0 U
1,3,5-Trichlorobenzene	10 U
1,3-Dichlorobenzene	15000
1,4-Dichlorobenzene	24000
1,4-Dioxane	2.7 J
2-Butanone	230 U
2-Hexanone	50 U
4-Methyl-2-pentanone	99 U
Acetone	270 U
Benzene	190
Bromochloromethane	27 U
Bromodichloromethane	12 U
Bromoform	19 U
Bromomethane	18 U
Carbon disulfide	13 U
Carbon tetrachloride	6.0 U
Chlorobenzene	1800
Chloroethane	17 U
Chloroform	8.0 U
Chloromethane	10 U
cis-1,2-Dichloroethene	18 U
cis-1,3-Dichloropropene	18 U
Cyclohexane	16 U
Dibromochloromethane	20 U
Dichlorodifluoromethane	530
Ethylbenzene	10 U
Ethylene Dibromide	0.075 U
Freon TF	8.0 U
Isopropylbenzene	8.0 U
m&p-Xylene	25 U
Methyl acetate	34 U
Methylcyclohexane	14 U
Methylene Chloride	18 U
MTBE	14 U
o-Xylene	13 U
Styrene	12 U
Tetrachloroethene	10 U
Toluene	15 U
trans-1,2-Dichloroethene	13 U
trans-1,3-Dichloropropene	24 U
Trichloroethene	9.0 U
Trichlorofluoromethane	15 U
Vinyl chloride	14 U

TABLE 15
PZ-13L ANALYTICAL RESULTS
STANDARD CHLORINE CHEMICAL CO. INC. SITE
KEARNY, NEW JERSEY








Client ID	PZ-13L	
Sampling Date	11/11/2013 16:20:00	
Unit	ug/l	
SVOCs Method 8270C		
1,2,4,5-Tetrachlorobenzene	9.4	U
2,2'-oxybis[1-chloropropane]	6.8	U
2,3,4,6-Tetrachlorophenol	4.6	U
2,4,5-Trichlorophenol	11	U
2,4,6-Trichlorophenol	7.3	U
2,4-Dichlorophenol	86	
2,4-Dimethylphenol	6.3	U
2,4-Dinitrophenol	10	U
2,4-Dinitrotoluene	1.5	U
2,6-Dinitrotoluene	1.4	U
2-Chloronaphthalene	6.8	U
2-Chlorophenol	14	J
2-Methylnaphthalene	7.8	U
2-Methylphenol	7.3	U
2-Nitroaniline	10	U
2-Nitrophenol	3.5	U
3,3'-Dichlorobenzidine	17	U
3-Nitroaniline	15	U
4,6-Dinitro-2-methylphenol	16	U
4-Bromophenyl phenyl ether	5.7	U
4-Chloro-3-methylphenol	5.7	U
4-Chloroaniline	1.7	U
4-Chlorophenyl phenyl ether	7.8	U
4-Methylphenol	5.2	U
4-Nitroaniline	15	U
4-Nitrophenol	10	U
Acenaphthene	5.7	U
Acenaphthylene	9.4	U
Acetophenone	4.6	U
Anthracene	4.4	U
Atrazine	5.2	U
Benzaldehyde	11	U
Benzo[a]anthracene	0.18	U
Benzo[a]pyrene	0.25	U
Benzo[b]fluoranthene	0.16	U
Benzo[g,h,i]perylene	4.8	U
Benzo[k]fluoranthene	0.73	U
Bis(2-chloroethoxy)methane	5.2	U
Bis(2-chloroethyl)ether	0.62	
Bis(2-ethylhexyl) phthalate	4.2	U
Butyl benzyl phthalate	7.3	U
Caprolactam	4.7	U
Carbazole	6.3	U
Chrysene	7.3	U
Dibenz(a,h)anthracene	0.83	U
Dibenzofuran	7.8	U
Diethyl phthalate	7.3	U
Dimethyl phthalate	5.7	U
Di-n-butyl phthalate	5.2	U
Di-n-octyl phthalate	4.6	U
Diphenyl	9.4	U
Fluoranthene	5.7	U
Fluorene	8.9	U
Hexachlorobenzene	0.034	U
Hexachlorobutadiene	3.5	U
Hexachlorocyclopentadiene	7.8	U
Hexachloroethane	0.78	U
Indeno[1,2,3-cd]pyrene	0.57	U
Isophorone	6.8	U
Naphthalene	11	J
Nitrobenzene	1.8	U
N-Nitrosodi-n-propylamine	1.4	U
N-Nitrosodiphenylamine	5.2	U
Pentachlorophenol	0.73	U
Phenanthrene	6.3	U
Phenol	3.1	U
Pyrene	5.7	U

APPENDIX A
SOIL BORING LOGS

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156925.65 N: 698383.376
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.91 ft TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft


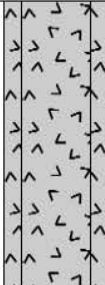


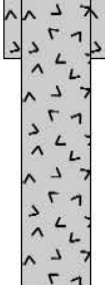
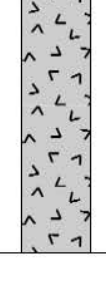
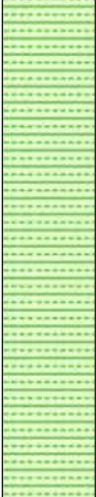
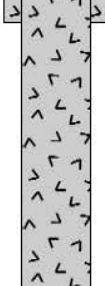
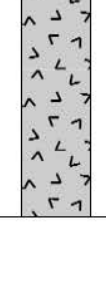

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100	0.0	0		Cement
		Clean Fill with Fabric layer below		0.0			Clean Back Fill Fabric
		Fill - Black cinder/slag like material, wet to saturated below 5', no odor	27	0.0			
5		Fill - COPR like material (multi-colored gray/brown/yellow sandy silt like material)	100	0.0	0		Temporary Casing (7") Removed from 9' bgs
		Fill - Black cinder/slag like material, wet to saturated below 5', no odor		0.0			
		Meadow Mat, wet,	33	0.0	0		Cement Bentonite Grout

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156925.65 N: 698383.376
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.91 ft TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15				1.2	0		Temporary Casing (6") Removed from 19' bgs
		Dark brown to brown fmc SAND, faint odor below 13.5'		0.0			
				0.0	1		
			80	0.0			
20		Medium brown and gray varved SILT and CLAY		0.0	1		Cement Bentonite Grout
				0.0	0		
				0.0			
			100	0.0	0		
							4" Borehole



DRILLING INFORMATION



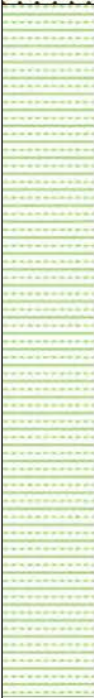
DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.705 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft

NOTES: Page 1 of 2

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156906.132 N: 698057.978
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.705 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft






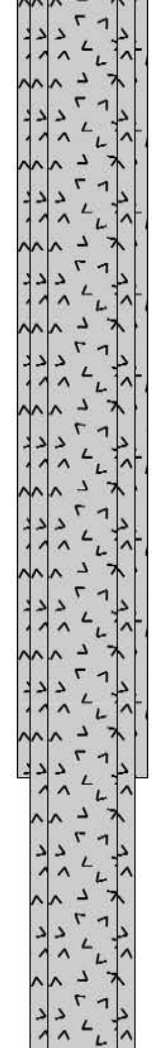



Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark brown to brown fmc SAND, trace to some silt, saturated, strong odor, potential staining just above the clay layer below	100	4.7	0		Temporary Casing (6") Removed from 20' bgs
				68.9	0		
				171.1	0		
				125.5	0		
				177.6	0		
			100	511.7	2		4" Borehole
				9.7			
				4.7			
				1.3			
				0.0	0		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, no odor	100	0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
25							

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156906.132 N: 698143.967
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.079 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100	0.0	0		Cement Clean Back Fill Fabric
		Clean Fill with Fabric layer below		155.4			
		Light gray concrete		157.7			
		Fill - Black cinder/slag like material, wet to saturated below 2', strong odor upper 0.5'	18	70.1	1		Temporary Casing (7'') Removed from 10' bgs
5		Fill - COPR like material (brn to dark brn sandy silt like material, trace clay w/greenish hue mottling)	100	192.1	1		
		Meadow Mat, saturated, soft, residual DNAPL observed from 9 to 9.6', trace residual DNAPL between 9.6-10'		387.7	1		
		Olive gray Silty fm sand, grading to clayey sand below 13.5, wet, faint odor		200.5	2		
10			80	58.9	2		Cement Bentonite Grout
				30.3	2		
				8.8	1		
				42.2			

NOTES:



BOREHOLE LOG: D-16


DATE DRILLED: 'October 15/16, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156906.132 N: 698143.967
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.079 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft









Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Olive gray Silty Clay, w/thin orangish brown sand streaks, v moist Med brown fmc SAND, pinkish hue color below 14.5', saturated, faint odor		40.0 12.1 10.1 26.3			Temporary Casing (6") Removed from 20' bgs
			30	14.7	1		
20				10.5			
				1.7			
		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 22'		9.2	1		4" Borehole
			100	0.7	0		
				0.6			
25				0.2	0		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157132.842 N: 698329.313
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.73 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft




Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt		0.0			Cement
		Clean Fill with Fabric layer below			0		Clean Back Fill
		Fill - Medium to dark brown f gravel/slag/brick fragment, sand, silt, some clay, moist to slightly moist, v dense	100	0.3			Fabric
		Fill - Dark brown to black cinder like material (silty sand/f slag), light greenish gray fill material from 1.7-1.9', and some white fill material below 4', wet to saturated with depth	81	0.1			
				0.0			
				0.1	1		
				1.4			Temporary Casing
5					1		(7") Removed from
				0.0			10' bgs
		SAA, with wood fragments and cobble/rock fragment 3.5-inches in diameter, saturated, poor recovery likely due cobble bridging fill material in sample tube, last 3" white sandy material, sulfur/sewer odor	52	0.1			
				0.2	1		
				0.4			
				0.3	1		
		Meadow Mat, saturated, soft, grading into medium to dark brown organic rich fm sand, trace silt, trace root material at bottom	42	4.0	1		Cement
10				25.3			Bentonite Grout
		Medium brown to dark brown Silty fm SAND, trace organic material, w/dark gray nodules at 11.8', no odor		37.8	1		
				8.5	1		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157132.842 N: 698329.313
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.73 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft




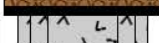

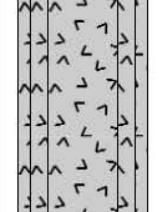



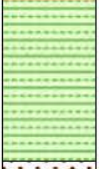
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Olive gray Silty Clay, w/ thin orangish brown sand streaks, v moist Med brown fine SAND, pinkish hue color below 14.5', saturated, faint odor	58	2.7	1		Temporary Casing (6") Removed from 20' bgs
				3.8	1		
				9.0	1		
				15.2	1		
				3.3	1		
			37		1		
				7.2	1		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 22'		0.0	0		
				0.0	0		
				0.0	0		
			100	0.0	0		
				0.0	0		
25					0		4" Borehole

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156896.741 N: 697990.754
 DATUM: NAD27/NAVD88




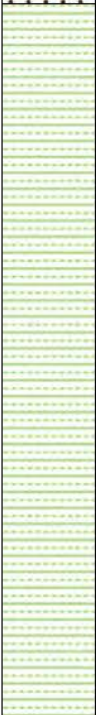

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.49 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100	3.8	0		Cement
		Clean Fill with Fabric layer below		20.8	0		Clean Back Fill Fabric
		Fill - Medium brown to dark brown silty sand, clay, gravel/rock fragments, large rock/cobble at bottom, moist to v. moist, slight odor	91	4.8	0		Temporary Casing (7") Removed from 10' bgs
				1.9			
				0.0			
				0.2			
			56	0.0			
5		Fill - Vary dark brown to black silty sand/cinder like material, saturated, faint odor		0.0			
				0.0			
				0.5	0		
		Very dark brown Meadow Mat, w/wood fragments, trace sand & fine gravel, soft, saturated, with wood stump from 7-8.5	65	2.2			
				1.3			
		Meadow Mat, saturated, soft, trace fine gravel at very bottom, wet/saturated, odor		0.0	0		
10				0.2	0		
		Olive to light brownish gray Silty CLAY, , some sand, and large root fragments, saturated		0.3	0		
				17.2	0		
			88	62.3	0		

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156896.741 N: 697990.754
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.49 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark brown to medium brown fmc SAND, trace to some silt, saturated, odor, iron like staining from 12.25-13.25'		269.5 234.9 13.6 26.5 312.3 428.4 53.3 11.3 1.7 11.3 4.4	0 0 0 0 0 0 2 0 0 0 0		Temporary Casing (6") Removed from 20' bgs
20		SAA, w/hard strong reddish brown silt streak from 17.1-17.15', w/coarse sand below, thin potential staining just above the thin layer of silt, saturated, strong odor	100				
25		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 19	100	0.0 0.0 0.0 0.0	0 0 0 0		4" Borehole

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157276.518 N: 698237.966
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.247 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Fill - Gray, dark gray, and strong brown silty material, some silty sand/gravel, with root material throughout, dry to moist		0.0	0		
				0.0	0		
				0.0	0		
		Fill - Multi-color silty fm slag like material, with brick fragments, glass, wood, wet to saturated	70		0		
				0.0	0		
					0		
5				0.0	0		
					0		
				0.0	0		
					0		
		Fill - Black fmc cider/slag like material, saturated	12		0		
				0.0	0		
					0		
				0.0	0		
					0		
			80		0		
				0.0	0		
10					0		
				0.0	0		
					0		
		Olive bm/gray Silty Clay, some sand, grading to a fine sand, v moist to saturated		0.0	0		
				0.1	0		
					0		
			72		0		

Temporary Casing
(7") Removed from
10' bgs

Cement
Bentonite Grout

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157276.518 N: 698237.966
 DATUM: NAD27/NAVD88




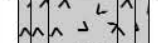
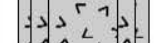
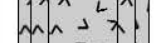
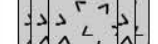
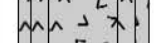
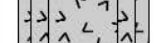
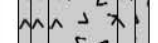
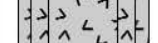
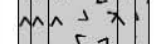
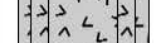
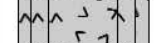
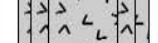
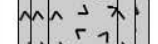
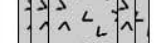
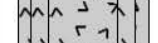
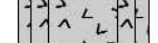
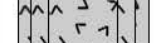
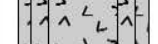
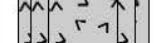
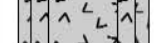
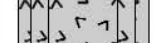
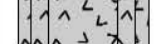
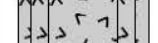
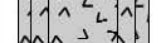
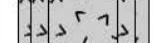
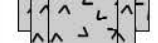
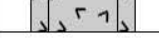





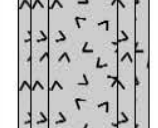
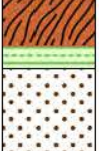
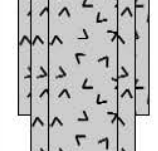
DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.247 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark gray to brn fm SAND, some silt, less w/depth, saturated		0.0	0		Temporary Casing (6") Removed from 20' bgs
				NA	0		
		Med brown fmc SAND, pinkish hue color below 16', thin dark gray silt streak at 15.1', saturated, faint odor	95	NA	1		
				249.3 1125.0	3		
		Medium brown and gray Silt, with few clay streaks/layers, v moist, slightly stiff, faint odor	75	8.8 7.6 8.3	1 1 1		4" Borehole
20				0.5	1		
				0.1	1		
		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, faint to no odor	100	0.2 0.6 0.0	0 0 0		
25							

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157396.107 N: 698317.969
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.049 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Clean Fill with Fabric layer below	100	0.0			Clean Back Fill Synthetic Liner & Fabric
		Fill - Dark brown to black cinder like material, moist		0.0	0		Temporary Casing (7") Removed from 12.5' bgs
			91	0.0	0		
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
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				0.0			
				0.0			
				0.0			
				0.0			
5		Fill - COPR fill like material w/yellow mottling and purple mottling below 5', v. moist to wet	84	0.0	0		
				0.0			
				0.0			
				0.0			
10		Meadow Mat, saturated, soft, upper 1 foot appears to be reworked/disturbed	100	0.0	0		Cement Bentonite Grout
		Olive gray Silty CLAY, v moist to wet, grading to a fmc sand downward, w/less clay w/depth		0.0	0		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157396.107 N: 698317.969
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.049 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft






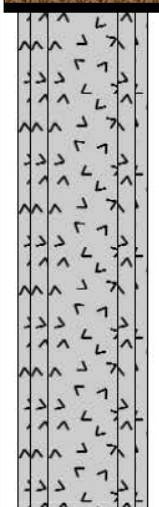

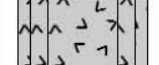



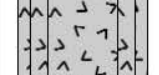

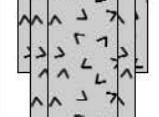





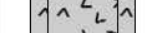
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark brown to black fm Silty Sand, faint coal tar like odor	100	0.0 0.0 2.9 2.6 4.3 1.8 12.5	0 0 0 0		Temporary Casing (6") Removed from 20' bgs
		Medium brownish gray fmc SAND, trace silt, w/ dark like staining/streaks at the varved clay contact at 18.5'	96	19.2 217.8 2.3 4.4 2.8	2		
20		Medium brown and gray varved SILT and CLAY, v moist, soft to very soft, faint odor, no odor below 20'	100	0.0 0.0 0.0 0.0 0.0	0 0 0 0 0		
25				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
							4" Borehole

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156983.828 N: 697959.776
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.076 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft





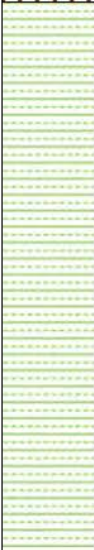

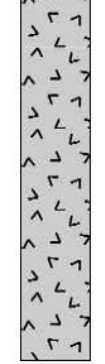
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100		0		Cement
		Clean Fill with Fabric layer below					Clean Back Fill Fabric
		Fill - Brown/gray coarse angular stone (clean), wet to saturated	0	0.0 0.0 0.0	0		Temporary Casing (7") Removed from 10' bgs
5		Fill/clean - Strong brown silty clay, sandy, with rock fragments throughout, wet	100	0.0	0		
		Fill - Dark brown to black silty sand, some organic root material throughout, saturated, strong odor, oil test kit indicated no oil present		27.3 46.4			
		Meadow Mat, saturated, soft, trace fine gravel at very bottom, wet/saturated, odor	100	24.0			
		Dark brown organic rich Sandy SILT, some roots throughout less w/depth, saturated , odor		8.0 8.8	1		Cement
10		Olive to light brownish gray Silty CLAY, w/thin sandy streaks throughout, vary moist to wet		12.9 24.0	1		Bentonite Grout
		SAA, sand content increasing w/depth		13.8	1		
			90	8.9	1		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156983.828 N: 697959.776
 DATUM: NAD27/NAVD88







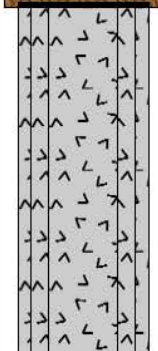


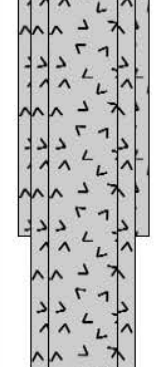
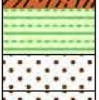

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.076 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 24 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Medium to dark brown fm SAND, trace to some silt, trace gravel, saturated, odor		161.8	1		Temporary Casing (6") Removed from 20' bgs
				151.4			
				2.2	1		
				12.3			
				32.9	1		
				45.6			
		SAA, lighter in color w/depth, w/thin potential stain streak above the clay layer below, saturated, odor, oil test kit indicated oil present (trace)	100	20.1	1		
				46.8	1		
				4.2	2		
				1.6			
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 20'		1.2	1		
				0.2	1		
				0.0	0		
			100	0.0	0		
				0.0	0		
25							4" Borehole

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157124.432 N: 698043.26
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.352 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 23 ft






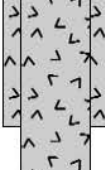
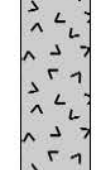
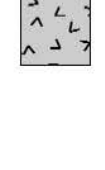


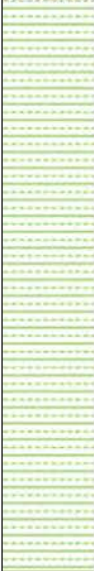
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt		0.0			Cement
		Clean Fill with Fabric layer below	100	0.0	0		Clean Back Fill Fabric
		Fill - Brown coarse stone, some sand/silt, wet		0.0			
		Fill - Medium to dark brown f gravel/slag/brick fragment, sand, silt, some clay, moist to slightly moist, v dense	48	0.0	0		Temporary Casing (7") Removed from 10' bgs
5		Fill - Medium to dark brown f gravel/slag/brick fragment, sand, silt, some clay, moist to slightly moist, v dense		0.0			
		Meadow Mat, saturated, soft, some coarse rock fragments/gravel, no odor or NAPL observed, likely got into Meadow Mat around 7.5 ft-bgs (easy push from 7.5 to 10')	2	0.0	0		Cement Bentonite Grout
10		Olive gray Sandy CLAY, v moist to wet, grading to a fmc sand downward, w/less clay w/depth	100	0.0 9.8 0.8	0 0 1		
		Olive gray to brown fmc sand, some to trace		2.8 1.6	1 1		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157124.432 N: 698043.26
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.352 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 23 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		silt, saturated Medium to dark (multi color) brown fmc SAND, trace very thin black streaks from 13-13.5 ft-bgs	67	3.5	1		Temporary Casing (6") Removed from 20' bgs
		Medium brown to grayish brown fmc SAND, saturated, strong odor, product observed on liner throughout		1.9			
				220.0	1		
				270.0	3		
				250.0			4" Borehole
				317.0	1		
				281.0			
			65	66.0	1		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 21'		0.2	1		
				0.0			
			100	0.0	0		
				0.0			
				0.0			
				0.0			
25				0.0			

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156865.558 N: 697869.5844
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 5.06 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Fill - Dark brown to black cinder/slay like material, dry to moist		0.0			
		Fill - Brown to dark brown reddish brown clayey sand and rock fragments, moist		0.0			
			70	0.0			
		Fill - Strong brown silty sand and gravel/rock fragments, moist of v moist		0.0			
5				0.0	0		Temporary Casing (7") Removed from 10' bgs
				0.0			
			60	0.0			
		Dark orangish brown MEADOW MAT, saturated, soft		0.0			
10				0.8	0		Cement Bentonite Grout
		Dark brn to gray fm SAND, some silt, organic rich at top and less w/depth, saturated		0.6	1		
				0.0	1		
				0.0	0		
		Olive brn/gray Silty Clay, some sand, w/coarse gravel at bottom, v moist	100	4.5	0		
				7.3	1		

NOTES:



BOREHOLE LOG: D-23



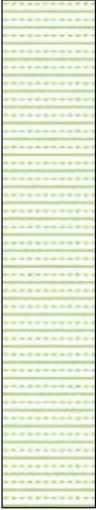
DATE DRILLED: October 30, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156865.558 N: 697869.5844
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 5.06 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Med brown fmc SAND, pinkish hue color below 14.5', saturated, faint odor	100	5.1			Temporary Casing (6") Removed from 20' bgs
				7.4			
				6.3	1		
				22.4			
				127.2	1		
			100	701.0	3		
				452.2			
				22.4	1		
				1.8	1		
				0.4	1		
			100	0.1	0		
20		Medium brown and gray SILT, with few clay streaks/layers below 18', v moist, slightly stiff, faint odor		0.0	0		4" Borehole
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
25		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 20'		0.0	0		

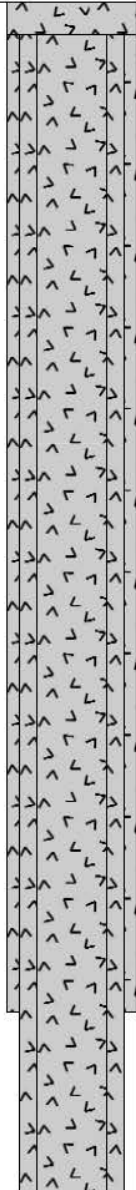
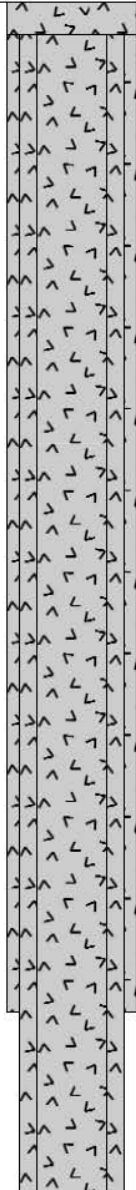
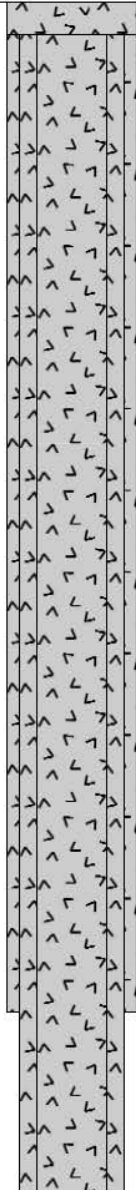
NOTES:

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156858.79 N: 697841.359
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.34 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 23 ft





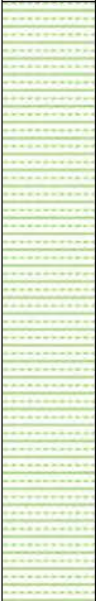
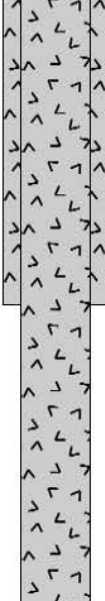
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Fill - Light to medium grayish silt, sand, rock fragments/gravel, moist	65	0.0	0		Temporary Casing (7") Removed from 10' bgs
				0.0			
				0.0			
				1.2			
		Fill - Dark gray to black cinder like material (sandy), w/cobble/rock fragment from 2.7-3', trace Meadow Mat like material below 3', vary moist to wet	5	0.0	0		Temporary Casing (7") Removed from 10' bgs
5							
		Fill - Dark gray to black silty coarse sand (could be reworked native soil), some organic root like material, large chunk of wood stuck in sample shoe which likely caused poor recovery while pushing through Meadow Mat, likely from ~6 to 10', Driller indicated vary soft from 6 to 10 feet		0.0			
		Driller indicated vary soft from 6 to 10 feet thus likely pushed through MEADOW MAT from 6 to 10 ft-bgs					
10		Olive brn/gray Silty Clay, some sand, sand content increases w/depth, stiff to slightly soft, trace fine gravel w/depth coarse gravel at bottom, v moist, faint odor at bottom		0.0	0		Cement Bentonite Grout
				0.0			
				1.8			
				17.1			

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156858.79 N: 697841.359
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.34 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 23 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark Grayish brown to grayish brown fmc SAND, some to trace silt, with faint pinkish hue, saturate, w/odor	50	27.7	1		Temporary Casing (6") Removed from 20' bgs
					1		
					1		
				253.0	1		
				813.3	1		
		Med grayish brown to brown fmc SAND, trace to some silt, saturated, visual product observed on sample glove, strong odor		1048.0	3		
				15.6	1		
			100	7.8	1		
				3.8	1		
				5.2	1		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 20'		0.0	0		
				0.0	0		
			100	0.0	0		
				0.0	0		4" Borehole



BOREHOLE LOG: D-25

DATE DRILLED: October 30, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156907.924 N: 697825.74
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 6.06 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Fill - Strong reddish brown silty Sand and Rock fragments, some to trace clay, slightly moist	70	0.0	0		Temporary Casing (7") Removed from 10' bgs
				0.0			
				0.0			
				1.2			
5		Fill - Dark gray to black cinder like material (silty/sandy) moist to wet, saturated below 5'	35	0.0	0		Cement Bentonite Grout
				0.0			
				0.0			
10		Meadow Mat - Wood/wood fibers, wet, driller indicated hard sampling/drilling between 8 to 9.5 feet	100	0.0	0		
				0.0	0		
				0.0	0		
		Dark orangish brown MEADOW MAT, saturated, soft		0.0	0		
				0.0	0		
				0.0	0		
		Dark Grayish brown to grayish brown fmc		0.0			

NOTES:



BOREHOLE LOG: D-25

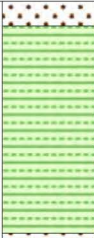




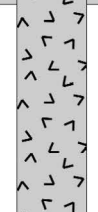
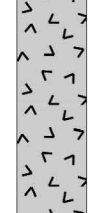
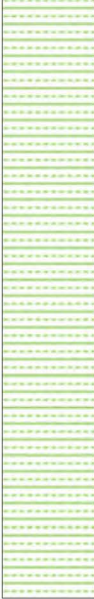

DATE DRILLED: October 30, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156907.924 N: 697825.74
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 6.06 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		SAND, some silt, trace organic root material/fibers, sateruated		0.0	0		Temporary Casing (6") Removed from 20' bgs
		Olive brn/gray Sandy Silty Clay, sand content increases w/depth, Saturated		0.0	0		
		Med grayish brown to brown fmc SAND, some to trace silt, iron like staining from 17 -17.6'. saturated, residual to Free-phase DNAPL, glove starting to deteriorate upon contact with bottom 1 inch of sand	85	0.0 0.8 4.8 16.9 518.7 16.1	0 0 2/3 1		
20				8.2	1		
				0.0	0		
		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 20'	90	0.0 0.0 0.0 0.0	0 0 0 0		4" Borehole

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157845.997 N: 698297.288
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.47 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft



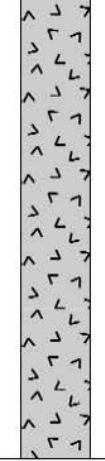
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Fabric with coarse stone backfill below (0-0.75 ft)					Fabric Cement
		Fill - Grayish brown silty sand, some gravel/rock fragments, glass, plastic bottle cap, v moist to wetgray to black cinder like material (silty/sandy) moist to wet, saturated below 5'	82				
5		Fill - Dark gray to black cinder like material, glass fragments, wet to saturated, oil test kit revealed no indications of product at the fill/top of Meadow mat contact			0		Temporary Casing (7") Removed from 10' bgs
		Meadow Mat - Wood/wood fibers, wet, sweet odor at bottom c	80	0.1 0.2 0.0			
10		Light gray to brownish gray Silty f SAND		0.0	0		Cement Bentonite Grout
		Olive brn/gray Sandy Clay, v moist		0.0 0.2 0.0	0		
			80	0.0 0.4	0		

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157845.997 N: 698297.288
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.47 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Grayish brown to brown fmc SAND, some to trace silt, coarser sand toward bottom, thin dark sand streak just above the top of varved silt and clay, saturated, odor	88	0.4	1		Temporary Casing (6") Removed from 20' bgs
				269.0	1		
				288.6	1		
				365.5			
				367.0	1		
			100	3.2	2		4" Borehole
				0.9	1		
				8.6	1		
20					1		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
25				0.0	0		
		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, faint odor, no odor below 20'					



BOREHOLE LOG: D-27

DATE DRILLED: October 31, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157921.196 N: 698020.973
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 8.268 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0				0.0			
			70	0.0			
		Fill - PDM		0.0			
5				0.0	0		Temporary Casing (7") Removed from 10' bgs
				0.0			
			60	0.0			
		Fill - Dark brown to black cider like material (sand, silt, gravel, rock & glass fragments, some root material upper 6" -residual NAPL and coal-tar like odor noted from 10-10.5'		0.0			
10				0.0	0		
				2.1			Cement Bentonite Grout
				3.7	2		
				2.2	2		
				0.8	0		
				0.7	0		
			100	0.4	2		

NOTES:



BOREHOLE LOG: D-27


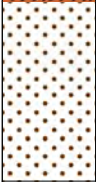

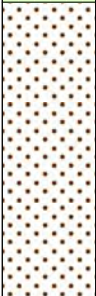






















DATE DRILLED: October 31, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157921.196 N: 698020.973
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 8.268 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark orangish brown MEADOW MAT, saturated, soft -residual NAPL and coal-tar like odor noted		43.7 23.4 1.6			
		Dark brn to gray fm SAND, some silt, organic rich at top and less w/depth, saturated		2.7 3.8	2 1		
		Olive brn/gray Silty Clay, some sand, w/coarse gravel at bottom, v moist			1		
		Med brown fmc SAND, pinkish hue color below 14.5', saturated, faint odor	100	0.6	1		
20				0.4	1		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
25							










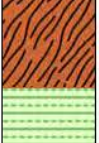
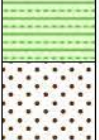

Temporary Casing
(6") Removed from
25' bgs

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156675.34 N: 698007.428
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.13 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 22 ft






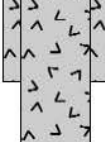
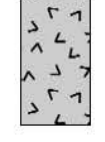


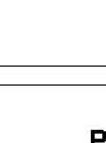
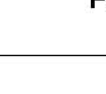
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100				Cement
		Clean Fill with Fabric layer below		0.0	0		Clean Back Fill
		Fill - Coarse stone underlane by light reddish brown sub-base material		0.0			
		Dark greenish gray silt/rock fragments upper 6", strong reddish brown silty sand material from ~ 1-3.5', darker in color below, wet to saturated, w/ large brick fragments & cobbles below 5.6	90	0.0	0		
		Fill - Dark grayish brown to black cinder like material, sandy, silty, w/brick fragments below 5'		0.0			
5		Meadow Mat, soft, saturated, swamp like odor, large wood fragment at very top	90	0.0	0		Temporary Casing (7") Removed from 10' bgs
		Olive gray Silty CLAY, some sand, soft, v. moist to wet		0.0			
10		Dark brown to brown fmc SAND, saturated, w/thin greenish orangish stain/streak at top	100	2.0	0		Cement Bentonite Grout
		Dark brown to brown fmc SAND, saturated, w/thin greenish orangish stain/streak at top		20.5			
		Dark brown to brown fmc SAND, saturated, w/thin greenish orangish stain/streak at top		5.5	0		
		Dark brown to brown fmc SAND, saturated, w/thin greenish orangish stain/streak at top		3.9			

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2156675.34 N: 698007.428
 DATUM: NAD27/NAVD88






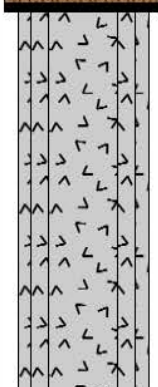

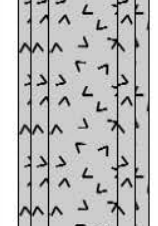

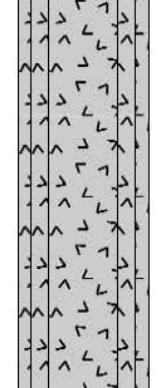

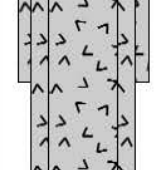

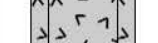

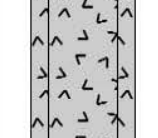
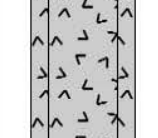
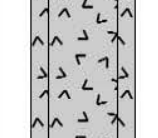
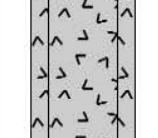
DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.13 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 22 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		of underlying clay, oil test kit indicates oil is present (trace) in the sand		29.1	0		Temporary Casing (6") Removed from 20' bgs
				79.8	2		
				7.8	0		
				0.0	0		
				0.0	0		
				0.0	0		
			100	0.0	0		
				0.0	0		
				0.0	0		
				0.0	0		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, no odor		0.0	0		4" Borehole
				0.0	0		
				0.0	0		
			100	0.0	0		
				0.0	0		
25							

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157216.897 N: 698145.484
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.98 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 22.5 ft





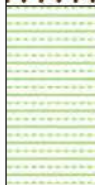

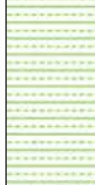
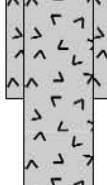
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Asphalt	100				Cement
		Clean Fill with Fabric layer below					Clean Back Fill Fabric
		Fill - Brown coarsDark brown to black cinders/f slag, some brick fragment, compact, slightly moist to moist	100	0.0			Temporary Casing (7") Removed from 10' bgs
		Fill - SAA, purple color layer at 3.25, large brick fragments below 4', v moist to wet	100	0.0			Temporary Casing (7") Removed from 10' bgs
5		Fill - SAA w/ some large gravel and wood fragments, saturated	30	0.0			Temporary Casing (7") Removed from 10' bgs
		Meadow Mat - Appears to be reworked mat material with saw cut wood fragment, sandy/silty, organic rich, large stump/wood at bottom, saturated	96	0.0			Temporary Casing (7") Removed from 10' bgs
10		Meadow Mat, saturated, soft		0.0			Temporary Casing (7") Removed from 10' bgs
		Olive brownish gray f SAND, some silt, trace clay, trace gravel, saturated, increase in clay content w/depth	100	3.4	1		Temporary Casing (7") Removed from 10' bgs
				3.1			Temporary Casing (7") Removed from 10' bgs
				3.8			Temporary Casing (7") Removed from 10' bgs
				2.5	1		Temporary Casing (7") Removed from 10' bgs

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157216.897 N: 698145.484
 DATUM: NAD27/NAVD88


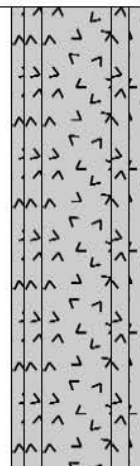



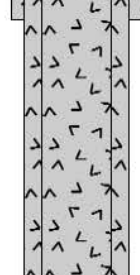
DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/D. Chamblee
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.98 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 22.5 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Medium to dark (multi color) brown fmc SAND, saturated, lighter in color below 14.5'	100	4.6	1		Temporary Casing (6") Removed from 20' bgs
				12.2			
				2.0			
				0.3			
20		Medium grayish brown fmc sand, saturated, faint odor	100	1.6	1		
				0.2			
				0.1			
				1.5			
				0.7			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
				0.0			
25		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, no odor	100	0.0	0		
				0.0			
				0.0			
				0.0			
25		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, no odor	100	0.0	0		4" Borehole
				0.0			
				0.0			
				0.0			

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157662.378 N: 698303.941
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.577 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Clean Fill - strong reddish brown sandy silt and rock fragments, Fill - Dark gray to gray sandy silt like material, with purplish hue, light gray inclusions below 1', moist		0.0 0.0 0.0 0.0	0		Temporary Casing (7'') Removed from 10' bgs
			52	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0		
		Fill - Dark reddish brown silt, sand, some clay and rock fragment, whitish inclusions above 5', and greenish inclusions below 5', v. moist to wet below 5'		0.0 0.0 0.0 0.0 0.0 0.0 0.0			
5		Fill - Dark gray to black sandy silt, with wood fragments below 6', saturated		0.0 0.0 0.0 0.0 0.0 0.0 0.0			
				0.0 0.0 0.0 0.0 0.0 0.0 0.0	0		
		Meadow Mat, appears top 6" above wood fragment/stump, saturated (driller indicated vary soft)	45	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0			
				0.0 0.0 0.0 0.0 0.0 0.0 0.0			
10		Olive gray Silty CLAY, some sand, sand content/size increasing w/depth, saturated		0.0 0.0 0.0 0.0 0.0 0.0 0.0	0		
				0.0 0.0 0.0 0.0 0.0 0.0 0.0	0		
		Medium to dark brown FM SAND, some to trace silt, saturated	90	0.3 0.9 0.0	0		
							Cement Bentonite Grout



BOREHOLE LOG: VC-3

DATE DRILLED: October 22, 2013

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157662.378 N: 698303.941
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.577 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft

Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark brownish gray fmc SAND, saturated, odor		2.4 4.0 3.1 46.6	0 0		Temporary Casing (6") Removed from 20' bgs
		SAA, stained below 17.5, strong odor, dark reddish brown hard silt fragmens at bottom 2" with Free-phase DNPL	100	177.6 544.6 265.4 262.8 397.8	0 0		
20		Medium brown and gray varved SILT and CLAY, v moist, medium to soft, no odor	100	641.2 17.0 12.0	2 3 0		
				0.0 0.0 0.0 0.0 0.0	0 0 0 0 0		
25				0.0	0		
							4" Borehole




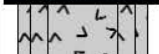
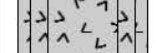
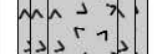
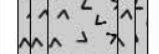
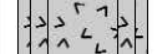
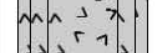
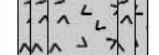
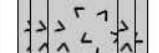
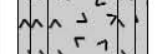
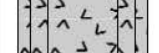
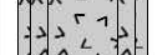
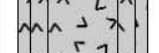
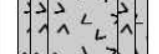
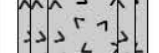
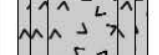
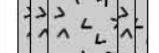

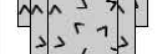
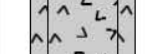
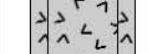

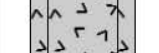
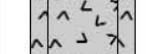

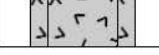

NOTES:

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157578.421 N: 698409.533
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.158 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft







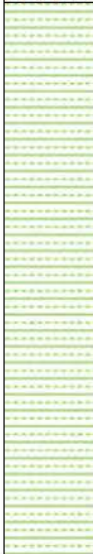



Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Clean Fill with Fabric layer below	100	0.0			Clean Back Fill
		Fill - Dark brown to black cinder like material and COPR like material, moist		0.0	0		Fabric
				0.0			Synthetic
				0.0			Gravel &
			72	0.0	0		
				0.0			
				0.0			
				0.0			
				0.0	0		Temporary Casing
5		Fill - COPR fill like material w/yellow mottling, saturated below 2.5'		0.0	0		(7") Removed from
				0.0			10' bgs
				0.0			
				0.0			
			95	0.0	0		
				0.0			
				0.0			
				0.0	0		
10		Meadow Mat, saturated, soft, upper 1 foot appears to be reworked/disturbed		3.8	0		Cement
				2.5	0		Bentonite Grout
				1.9			
		Olive gray Silty CLAY, some sand, v moist to wet		4.9	0		
				24.7			
			100	8.7	0		
				7.3			

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157578.421 N: 698409.533
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 4.158 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft












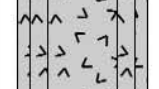







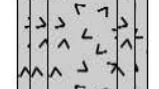







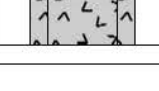








Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Dark gray to brown fmc Sand, saturated, faint odor		13.8 6.0 6.9	0 0		Temporary Casing (6") Removed from 20' bgs
		Medium gray to brown fmc Sand, saturated, odor present/stronger w/depth,	100	13.1 76.6 60.1 298.4 404.6	0 0 0 0		
		Dark gray to black fmc SAND, Saturated, Free-phase DNAPL observed throughout, heaviest just above the varved clay contact		557.8 8.8	3		
20		Medium brown and gray varved SILT and CLAY, v moist, soft to very soft, faint odor, no odor below 22'		100	10.1	0	
			7.2 4.6 2.2 1.8 1.1 1.4		0 0 0 0 0		
			0.2 0.0		0 0		
					0		
25							4" Borehole

PROJECT INFORMATION

DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157517.424 N: 698563.172
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
 DRILLER: Jeff Segreaves/J. Ray
 DRILLING RIG: Geoprobe 8140 LC
 DRILLING METHOD: Sonic
 SAMPLING METHOD: Sonic Core
 ELEVATION: GND SURF: 3.491 TOC: NA
 TOTAL WELL DEPTH: NA
 TOTAL BORING DEPTH: 25 ft




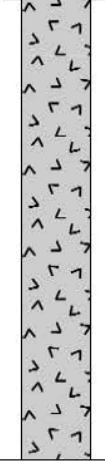
Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
0		Clean Fill with Fabric layer below	100	0.0			Clean Back Fill
				0.0	0		Synthetic Liner & Fabric
				0.0			
				0.0	0		
			38	0.0			
		Fill - COPR fill like material, some gravel/rock fragment from 1-2', wet to saturated		0.0			
				0.0	0		
5				0.0			
				0.0	0		
		Fill - Dark brown to black cinder like material, saturated moist	100	0.0			
				1.7	0		
				0.8			
		Meadow Mat, saturated, soft, upper 0.5 foot appears to be reworked/disturbed, wood/stump 9.5-10'		1.7	0		
				1.8			
10				0.4	0		
		Dark brown to black fm Silty Sand, odor	100	0.2			
				1.7	0		
				0.8			
				3.7	0		
				12.2			

NOTES:

PROJECT INFORMATION
DRILLING INFORMATION

PROJECT: SCCC Site RI/FSS
 SITE LOCATION: Kearny, New Jersey
 PROJECT NO: 201306
 FIELD GEOLOGIST: JM Valesky
 PROJECT MANAGER: Jim Zubrow
 COORDINATES: E: 2157517.424 N: 698563.172
 DATUM: NAD27/NAVD88

DRILLING CO: ARS/Major Drilling
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Depth (ft-bgs)	Lithol Log	Lithology Description	Recov %	PID	NAPL Rating	Graphical Completion Log	Completion Description
15		Medium grayish brown fmc SAND, saturated, strong odor, Free-phase DNAPL observed between 14.75-17 ft-bgs, '		9.8 60.5 118.3 325.2 305.4 14.8 0.0	0 3 3 3 0		Temporary Casing (6") Removed from 20' bgs
20		Medium brown and gray varved SILT and CLAY, v moist/wet, very soft, faint odor, no odor below 19'	100	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0		4" Borehole